



# Toll Bridge Seismic Retrofit and Regional Measure 1 Programs

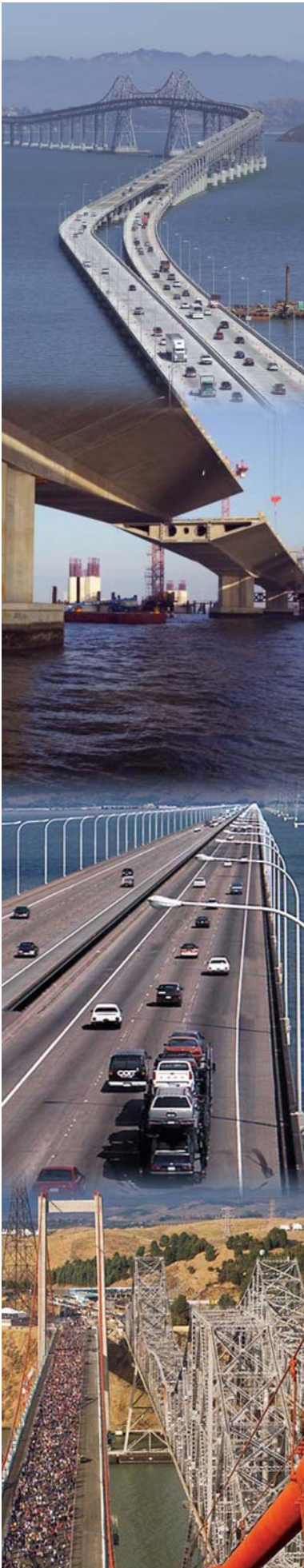
## Monthly Progress Report January 2006

Toll Bridge Program Oversight Committee



Released: February 2006





# Toll Bridge Seismic Retrofit and Regional Measure 1 Programs

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Monthly Progress Report  
January 2006

## Toll Bridge Program Oversight Committee



California Department of Transportation



Bay Area Toll Authority



California Transportation Commission



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## Toll Bridges of the San Francisco Bay Area



\* Under the Jurisdiction of the Golden Gate Bridge, Highway and Transportation District

## INTRODUCTION

In July 2005, Assembly Bill 144, Hancock (AB 144) created the Toll Bridge Project Oversight Committee (TBPOC) to implement a project oversight and project control process for the Benicia-Martinez Bridge project and the state toll bridge seismic retrofit program projects. Comprised of the Caltrans Director, the Bay Area Toll Authority (BATA) Executive Director and the Executive Director of the California Transportation Commission (CTC), the TBPOC's project oversight and control processes include but are not limited to reviewing bid specifications and documents, providing field staff to review ongoing costs, reviewing and approving significant change orders and claims in excess of \$1 million (as defined by the committee) and preparing project reports.

AB 144 identified the Toll Bridge Seismic Retrofit Program and the new Benicia-Martinez Bridge Project as under the direct oversight of the TBPOC. The Toll Bridge Seismic Retrofit Program includes:

Toll Bridge Seismic Retrofit Projects	Seismic Safety Status
San Francisco-Oakland Bay Bridge East Span Replacement	Construction
San Francisco-Oakland Bay Bridge West Approach Replacement	Construction
San Francisco-Oakland Bay Bridge West Span Seismic Retrofit	Complete
San Mateo-Hayward Bridge Seismic Retrofit	Complete
Richmond-San Rafael Bridge Seismic Retrofit	Complete
Eastbound Carquinez Bridge Seismic Retrofit	Complete
Benicia-Martinez Bridge Seismic Retrofit	Complete
San Diego-Coronado Bridge Seismic Retrofit	Complete
Vincent Thomas Bridge Seismic Retrofit	Complete

The new Benicia-Martinez Bridge is part of a larger program of toll-funded projects, called the Regional Measure 1 (RM1) Toll Bridge Program, under the responsibility of the BATA. While the rest of the projects in the RM1 program are not directly under the responsibility of the TBPOC, BATA and Caltrans (CT) will continue to report on their progress as an informational item. The RM1 program includes:

RM1 Projects	Open to Traffic Status
New Benicia-Martinez Bridge	Construction
1927 Carquinez Bridge Demolition	Construction
Richmond-San Rafael Bridge Deck Overlay Rehabilitation	Design
Interstate 880/State Route 92 Interchange Reconstruction	Design
Richmond-San Rafael Bridge Trestle, Fender & Deck Joint Rehabilitation	Open
Westbound Carquinez Bridge Replacement	Open
San Mateo-Hayward Bridge Widening	Open
State Route 84 Bayfront Expressway Widening	Open
Richmond Parkway	Open

This report focuses on identifying critical project issues and monitoring project cost and schedule performance for the projects as measured against approved budgets and schedule milestones. This report is intended to fulfill Caltrans' requirement to provide monthly project progress reporting to the TBPOC under Section 30952.05 of the Streets and Highway Code.

## EXECUTIVE SUMMARY

## Toll Bridge Seismic Retrofit Program—Cost (\$Millions)

Project	Work Status	AB 144 / SB 66 Budget	Approved Changes	Current Budget	Actual Cost To Date (12/2005)	Estimate at Completion	At-Completion Variance	Cost Status
a	b	c	d	e = c + d	f	g	h = g - e	i
<b>SFOBB East Span Replacement Project</b>								
Capital Outlay Support		959.4	-	959.4	398.1	977.1	17.7	●
Capital Outlay Construction								
Skyway	Construction	1,293.0	-	1,293.0	961.2	1,293.0	-	●
SAS Superstructure	Advertise	1,753.7	-	1,753.7	-	1,767.4	13.7	●
SAS E2/T1 Foundations	Construction	313.5	-	313.5	88.3	313.5	-	●
YBI Transition Structures	Design	299.3	-	299.3	-	318.4	19.1	●
Oakland Touchdown	Design	283.8	-	283.8	-	272.7	(11.1)	●
South/South Detour	Design/Const	131.9	-	131.9	30.0	133.8	1.9	●
Existing Bridge Demolition	Design	239.2	-	239.2	-	222.0	(17.2)	●
Stormwater Treatment Measures	Design	15.0	-	15.0	-	15.0	-	●
East Span Completed Projects		90.3	-	90.3	89.0	90.3	-	
Right-of-Way and Environmental Mitigation		72.4	-	72.4	38.7	72.4	-	●
Other Budgeted Capital		35.1	-	35.1	-	11.0	(24.1)	
<b>Total SFOBB East Span Replacement Project</b>		<b>5,486.6</b>	<b>-</b>	<b>5,486.6</b>	<b>1,605.3</b>	<b>5,486.6</b>	<b>-</b>	
<b>SFOBB West Approach Replacement</b>								
	Construction							●
Capital Outlay Support		120.0	-	120.0	71.2	120.0	-	
Capital Outlay Construction		309.0	-	309.0	178.4	309.0	-	
<b>Total SFOBB West Approach Replacement</b>		<b>429.0</b>	<b>-</b>	<b>429.0</b>	<b>249.6</b>	<b>429.0</b>	<b>-</b>	
<b>Richmond-San Rafael Bridge Retrofit</b>								
	Construction							●
Capital Outlay Support		134.0	-	134.0	122.6	127.0	(7.0)	
Capital Outlay Construction		780.0	-	780.0	666.4	698.0	(82.0)	
<b>Total Richmond-San Rafael Bridge Retrofit</b>		<b>914.0</b>	<b>-</b>	<b>914.0</b>	<b>789.0</b>	<b>825.0</b>	<b>(89.0)</b>	
<b>Program Completed Projects</b>								
	Complete							
Capital Outlay Support		219.8	-	219.8	219.4	219.8	-	
Capital Outlay Construction		705.6	-	705.6	697.9	705.6	-	
<b>Total Program Completed Projects</b>		<b>925.4</b>	<b>-</b>	<b>925.4</b>	<b>917.3</b>	<b>925.4</b>	<b>-</b>	
Miscellaneous Program Costs		30.0	-	30.0	25.1	30.0	-	
Program Contingency		900.0	-	900.0	-	989.0	89.0	
<b>Total Toll Bridge Seismic Retrofit Program</b>		<b>8,685.0</b>	<b>-</b>	<b>8,685.0</b>	<b>3,586.3</b>	<b>8,685.0</b>	<b>-</b>	

● Within Approved Schedule and Budget

● Potential Cost and Schedule Impacts: Possible future need for Program Contingency Allocation

● Known Cost and Schedule Impacts: Request for Program Contingency Allocation forthcoming

Note: Details may not sum to totals due to rounding effects.



## Toll Bridge Seismic Retrofit Program—Schedule

Project	Project Complete AB 144 / SB 66 Baseline	Project Complete Forecast	Schedule Variance (Months)	Schedule Status	Remarks
a	b	c	d = c - b	e	F
<b>SFOBB East Span Replacement Project</b>					
Skyway	Apr 07	Apr 07	-	●	Fabrication issues concerning the Skyway hinge pipe beams could impact project schedule and budget. See page 10.
SAS E2/T1 Foundations	Jun 08	Mar 08	(3)	●	The suspension of work on this contract has been lifted. The TBPOC has approved the Contract Change Order (CCO) that restarts the work. See page 14.
SAS Superstructure	Mar 12	Mar 13	12	●	This contract is being re-advertised. Addendum #5 to the SAS Contract, issued by Caltrans on 12/21/05, extends the completion schedule for the SAS by 6 months. Addendum #7, issued by Caltrans on 1/23/06 extends the SAS schedule by an additional 6 months. The schedule impacts shown for the SAS contract and selected other follow on East Span contracts does not include an assumption of the contractor achieving the early SAS completion incentive. See pages 9, 12 and 13.
YBI Transition Structures	Nov 13	Nov 14	12	●	See SAS Superstructure remark.
Oakland Touchdown (OTD)	Nov 13	Nov 14	12	●	See SAS Superstructure remark.
• OTD Submarine Cable	n/a	Jul 07	-	●	
• OTD Westbound	n/a	Jul 09	-	●	
• OTD Eastbound	n/a	Nov 14	-	●	See SAS Superstructure remark.
YBI South/South Detour	Jul 07	Jul 07	-	●	Schedule is being assessed.
Existing Bridge Demolition	Sep 14	Sep 15	12	●	See SAS Superstructure remark.
Stormwater Treatment Measures	Mar 08	Jul 08	4	●	
Open to Traffic Date: West Bound	Sep 11	Sep 12	12	●	See SAS Superstructure remark.
Open to Traffic Date: East Bound	Sep 12	Sep 13	12	●	See SAS Superstructure remark.
<b>SFOBB West Approach Replacement</b>	Aug 09	Aug 09	-	●	
<b>Richmond-San Rafael Bridge Retrofit</b>	Aug 05	Oct 05	2	●	Seismic retrofit completed July 29, 2005. Formal acceptance of this contract on October 28, 2005.

## Regional Measure 1 Program—Cost (\$Millions)

Project	Work Status	July 2005 Budget	Approved Changes	Current Budget	Actual Cost To Date (12/2005)	Estimate at Completion	At-Completion Variance	Cost Status
a	b	c	d	e = c + d	f	g	h = g - e	i
<b>New Benicia-Martinez Bridge Project</b>	Construction							●
Capital Outlay Support		157.1	21.1	178.2	142.0	178.2	-	
Capital Outlay Construction		861.6	143.1	1,004.7	734.7	1,004.7	-	
Capital Outlay Right-of-Way		20.4	(0.1)	20.3	12.0	20.3	-	
Project Reserve		20.8	39.0	59.8	-	59.8	-	
<b>Total New Benicia-Martinez Bridge Project</b>		<b>1,059.9</b>	<b>203.1</b>	<b>1,263.0</b>	<b>888.7</b>	<b>1,263.0</b>	<b>-</b>	
<b>Carquinez Bridge Replacement Project</b>	Construction							●
Capital Outlay Support		124.4	-	124.4	114.3	125.4	1.0	
Capital Outlay Construction		381.2	-	381.2	356.9	383.3	2.1	
Capital Outlay Right-of-Way		10.5	-	10.5	9.9	10.5	-	
Project Reserve		12.1	-	12.1	-	9.0	(3.1)	
<b>Total Carquinez Bridge Replacement Project</b>		<b>528.2</b>	<b>-</b>	<b>528.2</b>	<b>481.1</b>	<b>528.2</b>	<b>-</b>	
<b>Richmond-San Rafael Bridge Deck Overlay Rehabilitation</b>	Design							●
Capital Outlay Support		8.0	(3.5)	4.5	1.6	4.5	-	
Capital Outlay Construction		16.9	3.6	20.5	-	20.5	-	
Project Reserve		0.1	(0.1)	-	-	-	-	
<b>Total Richmond-San Rafael Bridge Deck Overlay Rehabilitation</b>		<b>25.0</b>	<b>-</b>	<b>25.0</b>	<b>1.6</b>	<b>25.0</b>	<b>-</b>	
<b>I-880/SR-92 Interchange Reconstruction</b>	Design							●
Capital Outlay Support		28.8	-	28.8	26.3	43.2	14.4	
Capital Outlay Construction		94.8	-	94.8	-	119.0	24.2	
Capital Outlay Right-of-Way		9.9	-	9.9	7.3	13.0	3.1	
Project Reserve		0.3	-	0.3	-	11.1	10.8	
<b>Total I-880/SR-92 Interchange Reconstruction</b>		<b>133.8</b>	<b>-</b>	<b>133.8</b>	<b>33.6</b>	<b>186.3</b>	<b>52.5</b>	
<b>Program Completed Projects</b>	Complete							
Capital Outlay Support		54.0	-	54.0	53.8	55.5	1.5	
Capital Outlay Construction		307.6	-	307.6	289.5	296.8	(10.8)	
Capital Outlay Right-of-Way		1.5	-	1.5	0.5	0.6	(0.9)	
Project Reserve		1.8	-	1.8	0.2	0.7	(1.1)	
<b>Total Program Completed Projects</b>		<b>364.9</b>	<b>-</b>	<b>364.9</b>	<b>344.0</b>	<b>353.6</b>	<b>(11.3)</b>	
<b>Total Regional Measure 1 Program</b>		<b>2,111.8</b>	<b>203.1</b>	<b>2,314.9</b>	<b>1,749.0</b>	<b>2,356.1</b>	<b>41.2</b>	

● Within Approved Schedule and Budget

● Potential Cost and Schedule Impacts

● Known Cost and Schedule Impacts

Note: Details may not sum to totals due to rounding effects.

## Regional Measure 1 Program—Schedule

Project	Project Complete Baseline	Project Complete Forecast	Schedule Variance (Months)	Schedule Status	Remarks
a	b	c	d = c - b	e	f
<b>New Benicia-Martinez Bridge Project</b>					
• New Benicia-Martinez Bridge Open to Traffic Date	Dec 07	Dec 07		●	On 12/21/05, BATA approved a budget revision for the project to a total budget of \$1.263 billion.
• New Bridge Construction Complete	Dec 07	Feb 08	2	●	
<b>1927 Carquinez Bridge Demolition Project</b>	Dec 07	Sep 07	(3)	●	
<b>Richmond-San Rafael Bridge Deck Overlay Rehabilitation</b>	Jan 07	Jan 07	-	●	Staff has reviewed the project estimate. See page 39.
<b>I-880/SR-92 Interchange Reconstruction</b>	Nov 10	Dec 10	1	●	Environmental clearance issues have impacted the cost/schedule for this project. See page 40.

## Highlight of Project/Program Activities and Changes for January 2006

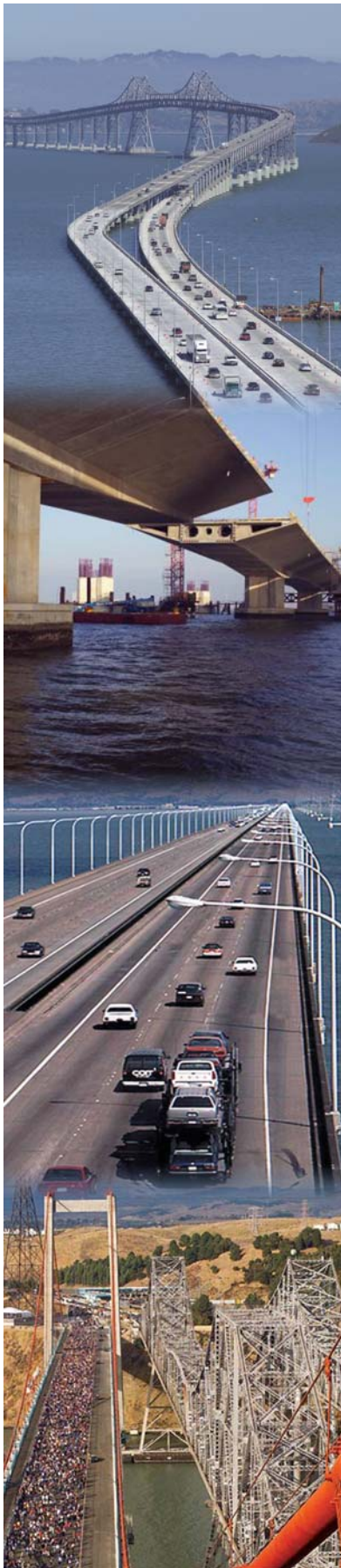
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### **Toll Bridge Seismic Retrofit Program**

- ◆ In January, Caltrans issued Addendum #7 primarily in response to bidder inquiries for additional construction duration. Addendum #7 extended the SAS contract by 6 additional months and added an incentive bonus at \$50,000 per day, up to a maximum of \$9 million, for completing milestone #1 early. This addendum also revised the bid opening date to March 22, 2006 and increased the stipend paid for the lowest three responsive bids to \$5 million per bidder. See pages 9, 12 and 13.
- ◆ Caltrans is in the process of finalizing project plans and specifications for a public access lot on the Marin side of the Richmond-San Rafael Bridge to comply with a BCDC permit condition. See page 25.

### **Regional Measure 1 Program**

- ◆ The Benicia-Martinez Bridge Toll Plaza and Administration Building contract has been operating under liquidated damages since October 2005. A hearing with the Dispute Resolution Board (DRB) will be held in January 2006 to resolve this issue. See page 35.



## PROJECT / CONTRACT REPORTS

### Toll Bridge Seismic Retrofit Program

#### San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project Summary

- Skyway Contract
- Self-Anchored Suspension (SAS) Superstructure Contract
- Self-Anchored Suspension (SAS) E2/T1 Foundation Contract
- Yerba Buena Island (YBI) South/South Detour Contract
- Other Major Contracts in Design
- Other Contracts and Related Project Work

#### San Francisco-Oakland Bay Bridge (SFOBB) West Approach Replacement Project

#### Richmond-San Rafael Bridge Seismic Retrofit Project

#### Other Completed Seismic Retrofit Projects



## Toll Bridge Seismic Retrofit Program

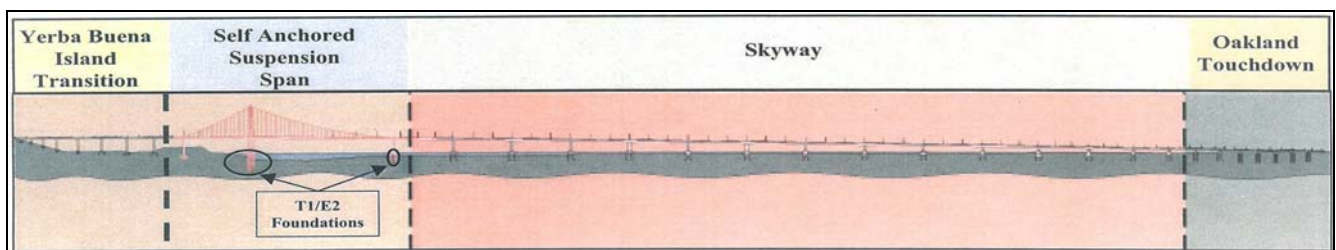
### San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project Summary

**Project Description:** The East Span will be seismically retrofitted through the complete replacement of the existing span. The remaining effort for this project consists of the following contracts: Skyway—construction of two parallel concrete structures, each approximately 1.3 miles in length; Self-Anchored Suspension (SAS) Foundation—construction of SAS marine foundations; SAS Superstructure—construction of a self-anchored 385-meter main span superstructure incorporating a 160-meter fabricated structural steel tower with a main cable and inclined suspenders that will support steel orthotropic decks; Yerba Buena Island (YBI) South/South Detour—design and construction of a temporary double-deck bypass structure that will detour traffic to the existing SFOBB while completing the westerly permanent tie-in structure of the new East Span at Yerba Buena Island; YBI Structures—construction of a new structure connecting the western end of the self-anchored suspension to the Yerba Buena Island viaduct, which will be retrofitted; Oakland Touchdown—at the Oakland end of the East Span, construction of two parallel, cast-in-place post-tensioned concrete viaducts, which join the skyway to the at-grade Oakland approach fill; and Existing Bridge Demolition—demolition of the existing 1936 SFOBB East Span structure after the construction and placement of traffic onto the new East Span.

#### SFOBB East Span Replacement Cost Summary (\$Millions)

Contract	AB 144 / SB 66 Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at * Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
Capital Outlay Support	959.4	-	959.4	398.1	977.1	17.7
Capital Outlay Construction	-	-	-	-	-	-
Skyway	1,293.0	-	1,293.0	961.2	1,293.0	-
SAS Superstructure	1,753.7	-	1,753.7	-	1,767.4	13.7
SAS E2/T1 Foundations	313.5	-	313.5	88.3	313.5	-
YBI Structures	299.3	-	299.3	-	318.4	19.1
Oakland Touchdown	283.8	-	283.8	-	272.7	(11.1)
YBI South/South Detour	131.9	-	131.9	30.0	133.8	1.9
Existing Bridge Demolition	239.2	-	239.2	-	222.0	(17.2)
Stormwater Treatment Measures	15.0	-	15.0	-	15.0	-
East Span Completed Projects	90.3	-	90.3	89.0	90.3	-
Right-of-Way and Environmental Mitigation	72.4	-	72.4	38.7	72.4	-
Other Budgeted Capital	35.1	-	35.1	-	11.0	(24.1)
<b>TOTAL</b>	<b>5,486.6</b>	<b>-</b>	<b>5,486.6</b>	<b>1,605.3</b>	<b>5,486.6</b>	<b>-</b>

Note: Details may not sum to totals due to rounding effects.



SFOBB East Span Replacement Project

**SFOBB East Span Replacement Schedule Summary**

Contract	Baseline Project Completion Date	Forecast Project Completion Date	Variance (Months)
Skyway	April 2007	April 2007	-
YBI South / South Detour*	July 2007	July 2007	-
Stormwater Treatment Measures	March 2008	July 2008	4
SAS E2/T1 Foundations	June 2008	March 2008	(3)
Open to Traffic: West Bound	September 2011	September 2012	12
SAS Superstructure	March 2012	March 2013	12
Open to Traffic: East Bound	September 2012	September 2013	12
Oakland Touchdown*	November 2013	November 2014	12
YBI Transition Structure*	November 2013	November 2014	12
Existing Bridge Demolition*	September 2014	September 2015	12

\* Contract schedules being further assessed due to changes in SAS schedule.

**Project Status:** Construction is currently ongoing on the Skyway and the YBI South/South Detour contracts. The SAS E2/T1 Foundation contract has been restarted and the SAS Superstructure contract has been re-advertised. Caltrans issued Addendum #7 to the SAS contract in January 2006. See the following contract detail pages for more information. Currently, these charges can be funded from contingencies in Other Budgeted Capital.

Given that Addenda #5, issued in December 2005, and #7, issued in January 2006, extended the SAS contract by a total of 12 months in response to bidder inquiries, and to attract more bids and decrease project costs, there has been a like impact to the West Bound and East Bound Open to Traffic dates. This 12-month delay to the east bound traffic date on the SAS Superstructure has likewise posed a 12-month delay to the completion of the Oakland Touchdown, YBI Transition Structure and the Existing Bridge Demolition contracts. Certain work scopes for all of these contracts cannot commence until east bound traffic has been placed onto the new span. This assessment of East Span corridor impact does not account for the effect of the early completion incentive that was also part of Addendum #7. Addendum #7 also revised the SAS contract bid opening date to March 22, 2006.

**Project Issues:** The results of the preliminary SAS and E2-T1 contract quantitative schedule risk analysis indicate that there is approximately an eighty percent probability that the SAS contract date of completion may be extended (whether by contractor, third party, weather, owner, or other excusable delay) by up to 21 months from the AB 144 / SB 66 schedule. It should be noted that this preliminary probabilistic schedule analysis does not consider many of the schedule risk responses subsequently identified and implemented, such as implementation of the fabrication action and solution team (FAST), and ongoing SAS contract addenda enhancements. Moreover, about half of the contract extension potential relates to the submission and review of tower shop drawings, and the fabrication and delivery of the lower tower sections. Contentious issues regarding quality and code interpretations may arise during review of shop drawings. There is considerable welding involved in the fabrication of the tower sections, giving rise to possible issues due to tight tolerances and different interpretations of welding codes and welding sequences. While these delay potentials exist now, there are risk responses such as FAST, the campus concept for integrating supplier/fabricator/Caltrans teams, and a review of the COS resources that can mitigate many of the delay-causing possibilities. As these responses will be implemented, their effectiveness in reducing the delay risks will be reassessed, and the schedule delay risk will be adjusted accordingly. Caltrans and TBPOC are and will be taking affirmative actions to mitigate any potential issues that may lead to schedule delays as described in the risk management plan.

**Recent TBPOC Actions:** In January 2006, the TBPOC approved Addendum #7 to the SAS bid documents. See the following contract detail pages for more information.

## Toll Bridge Seismic Retrofit Program

### San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project

#### ► SKYWAY CONTRACT

**Contract Description:** The Skyway contract constructs two parallel pre-cast concrete approach spans from Oakland to the self-anchored suspension span near Yerba Buena Island.

#### Skyway Cost Summary (\$Millions)

Contract	AB 144 / SB 66 Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
East Span - Skyway						
Capital Outlay Support	197.0	-	197.0	119.9	197.0	-
Capital Outlay Construction	1,293.0	-	1,293.0	961.2	1,293.0	-
<b>TOTAL</b>	<b>1,490.0</b>	<b>-</b>	<b>1,490.0</b>	<b>1,081.1</b>	<b>1,490.0</b>	<b>-</b>

*Note: Details may not sum to totals due to rounding effects.*

#### Skyway Schedule Summary

Contract	Baseline Contract Completion Date	Forecast Contract Completion Date	Variance (Months)
East Span - Skyway	April 2007	April 2007	-

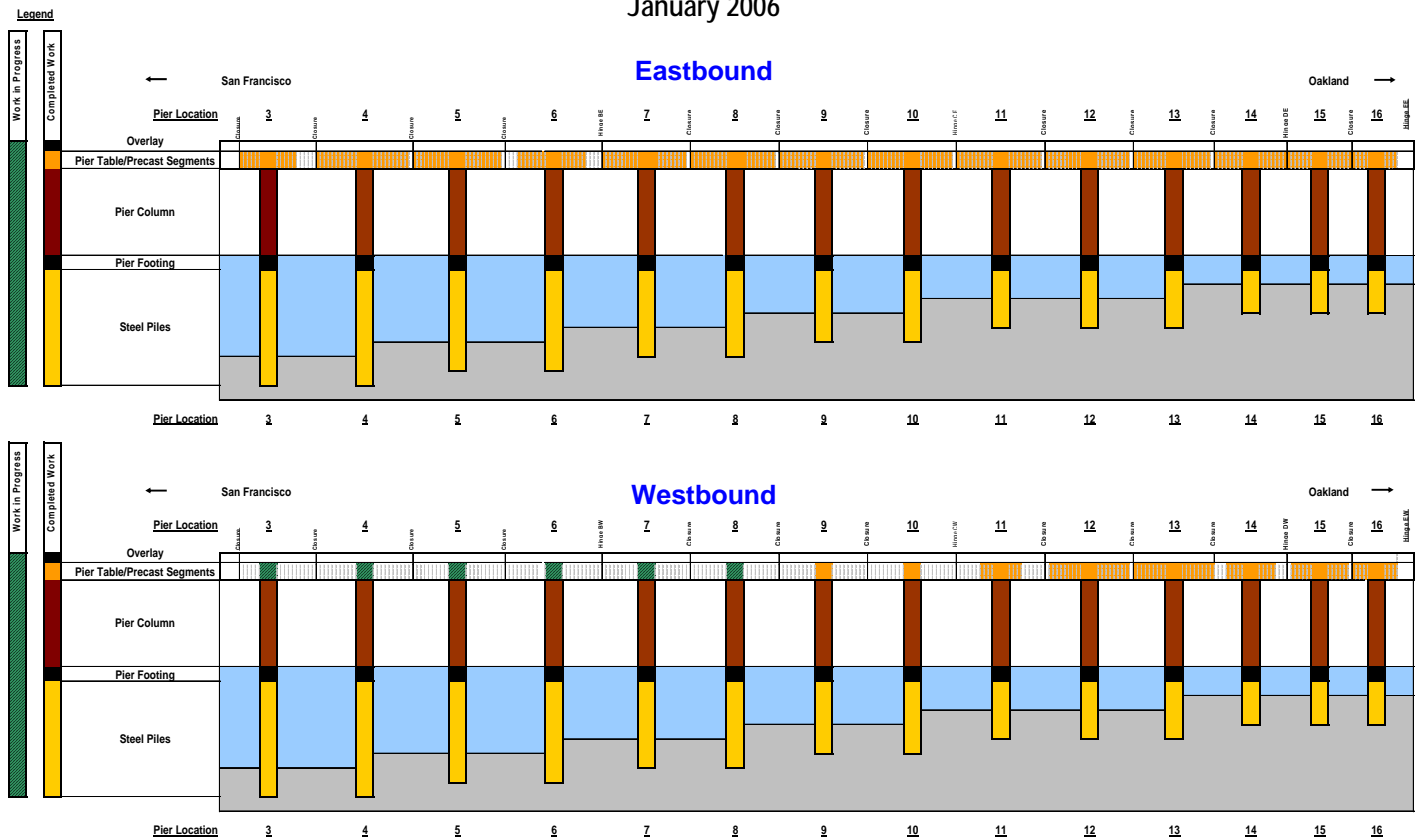
**Contract Status:** The Skyway contract is currently in construction and is 84% complete as of December 20, 2005. The Foundation work is complete with the exception of installing Fenders around six of the pier footings. The Fender work is currently scheduled to begin in January 2006 and be completed by September 2006. The last remaining pier column was completed in late December 2005. The Pier Tables are 79% complete with last remaining six Pier Tables in various stages of construction. Completion of the Pier Tables is scheduled for June 2006. Segment erection is currently 63% complete. The Eastbound structure is 96% complete with only 10 segments remaining to be completed, while the Westbound structure is 30% complete with 158 segments remaining to be completed. Erection activities are currently at Pier E9W and Pier E11W. Delivery of Hinge "BE" Pipe Beams are scheduled for January 2006. The eastbound Orthotropic Box Girder arrived on site on January 23, 2006 and its erection is now scheduled to commence on February 7, 2006. Bike Path cantilever beams continue to be installed with 80% complete, while the installation of the panel segments has begun and is currently 5% complete. The Stockton pre-cast yard continues to maintain their steady pace of casting one concrete bridge segment every two to three days in each of the two casting beds or roughly 5 segments per week. Currently, 403 of 452 segments or 89% have been cast with the remaining 49 segments scheduled to be complete by June 2006. A total of 284 segments (63%) have been installed to date.

**Contract Issues:**

Issue	Mitigating Action
A schedule delay is currently projected by the contractor due to issues with the fabrication of the hinge pipe beams that connect the major frames of the bridge.	While Caltrans is evaluating the contractor's fabrication methodology for the pipe beams, the contractor is currently mitigating the schedule delays by resequencing segment erection activities. The projected delay to the Skyway project is not expected to delay the overall open-to-traffic date for the East Span Replacement project.
KFM issued 11 NOPC's on behalf of USI for welding issues related to the fabrication of the Steel Orthotropic Box Girders (SOBG).	NOPC #11, regarding the Hinge Pipe Beam issues was heard by the Dispute Resolution Board (DRB) in November and December with two, two-day hearings. <b>The Board's decision was released on January 26, 2006, and its impact is being evaluated by Caltrans and the TBPOC.</b>
	USI continues fabrication of the SOBG with continued inspection by the Department. All NOPC's filed were recommended to be heard by the DRB, with the first three issues scheduled for March 2006.

**Recent TBPOC Actions:** None.

### San Francisco-Oakland Bay Bridge East Span Replacement Project - Skyway Contract January 2006



## Toll Bridge Seismic Retrofit Program

### San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project

#### ► SELF-ANCHORED SUSPENSION (SAS) SUPERSTRUCTURE CONTRACT

**Contract Description:** The Self-Anchored Suspension (SAS) Superstructure contract constructs a signature tower span between the skyway and the Yerba Buena Island transition structure. Work on the SAS bridge has been split between three contracts—the SAS Superstructure (in advertisement), the SAS E2/T1 Foundation (under construction), and the SAS W2 Foundation (completed).

#### SAS Superstructure Cost Summary (\$Millions)

Contract	AB 144 / SB 66 Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
East Span - SAS Superstructure						
Capital Outlay Support	214.6	-	214.6	16.6	214.6	-
Capital Outlay Construction	1,753.7	-	1,753.7	-	1,767.4	13.7
<b>TOTAL</b>	<b>1,968.3</b>	<b>-</b>	<b>1,968.3</b>	<b>16.6</b>	<b>1,982.0</b>	<b>13.7</b>

*Note: Details may not sum to totals due to rounding effects.*

#### SAS Superstructure Schedule Summary

Contract	Baseline Contract Completion Date	Forecast Contract Completion Date	Variance (Months)
East Span - SAS Superstructure	March 2012	March 2013	12

**Contract Status:** The SAS Superstructure Contract was re-advertised on August 1, 2005. Bid opening is scheduled for February 1, 2006. Two outreach sessions were held during August, 2005. A Contractor/Fabricator/Supplier meeting was held on September 23, 2005. A final outreach meeting for potential bidders was held on November 30, 2005. As of January 27, 2006, Caltrans has evaluated and responded to 260 contractor inquiries out of a total of 290 received.

At the direction of the TBPOC, Addendum #7 was issued by Caltrans on January 23, 2006. The major revisions included in the Addendum #7 are as follows:

- ◆ The bid opening date for the SAS contract has been extended from February 1, 2006 to March 22, 2006 to allow contract bidders more time to better prepare bids and develop their construction teams. To help mitigate some of this extended time Caltrans will reduce its bid review process from 60 days to 30 days for awarding the contract. The award date will be April 21, 2006 with a resulting overall delay of 20 days.
- ◆ 180 days has been added to the current SAS contract to accommodate for the time bidders have requested to produce and approve engineering drawings, full scale models and to address steel fabrication and delivery timeframes. A six-month, \$50,000 per day incentive clause has been added to the contract to reward and encourage the contractor to save time. As a result, the projected open-to-



traffic dates for the new East Span are September 2012 for westbound direction and September 2013 for the eastbound direction.

- ◆ The stipend offered to contractors submitting responsive bids has been raised to \$5 million to be awarded to the top three bidders, which makes submitting a bid more inviting by compensating contractors for extensive bid preparation work.

The TBPOC has determined that one of the biggest risks to the cost of the project is the potential of not having competition from multiple bidders. Therefore, based on requests from and discussions with potential bidders, the revisions incorporated into Addendum #7 are in an attempt to increase competition and lower project costs.

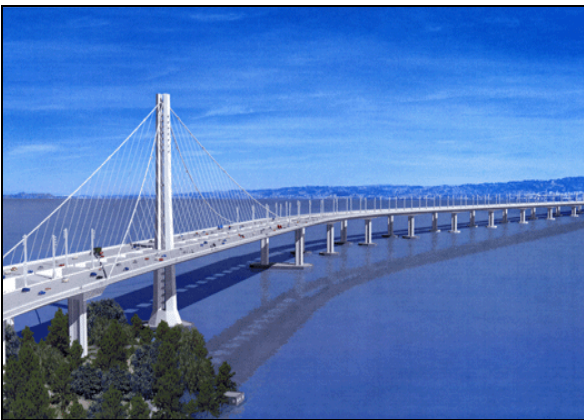
The estimate-at-completion forecast for the project is being re-evaluated to reflect recent TBPOC direction.

#### Contract Issues:

Issue	Mitigating Action
Caltrans' Risk Management evaluation of the project identified the potential lack of bidder competition as the greatest risk to maintaining project cost and schedule.	To increase number of bidders, the TBPOC has approved actions to de-federalize the SAS contract, revise the Cost Reduction Incentive Program (CRIP) to be more financially advantageous to contractors, increase the bidder's stipend to \$5 million to the lowest three responsive bidders, and hold additional contractor outreach sessions.

**Recent TBPOC Actions:** In December 2005, the TBPOC approved Addendum #5 for the SAS Contract, which extended the completion schedule for the project by 6 months and provided for contractor access from the Oakland Mole via Westbound OTD and Skyway. Addendum #5 was issued by Caltrans on December 21, 2005. Also, in December 2005, the TBPOC approved Addendum #6 which consisted of various specification changes. In January 2006, the TBPOC approved Addendum #7, as discussed on pages 12 and 13.

#### Contract Photographs



*SAS Superstructure Artist Rendition*



*Western end of the Skyway contract that will connect with the future SAS contract*

## Toll Bridge Seismic Retrofit Program

### San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project

#### ► SELF-ANCHORED SUSPENSION (SAS) E2/T1 FOUNDATIONS CONTRACT

**Contract Description:** The Self-Anchored Suspension (SAS) E2/T1 Foundation contract constructs the main tower foundation at T1 and the adjacent east foundation at E2.

#### SAS E2/T1 Foundation Cost Summary (\$ Millions)

Contract	AB 144 / SB 66 Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion *	Variance
a	b	c	d = b + c	e	f	g = f - d
East Span - SAS E2 / T1 Foundations						
Capital Outlay Support	52.5	-	52.5	7.6	52.5	-
Capital Outlay Construction	313.5	-	313.5	88.3	313.5	-
<b>TOTAL</b>	<b>366.0</b>	<b>-</b>	<b>366.0</b>	<b>95.9</b>	<b>366.0</b>	<b>-</b>

*Note: Details may not sum to totals due to rounding effects.*

#### SAS E2/T1 Foundation Schedule Summary

Contract	Baseline Contract Completion Date	Forecast Contract Completion Date	Variance (Months)
East Span - SAS E2 / T1 Foundations	June 2008	March 2008	(3)

**Contract Status:** Work on the project was suspended in January 2005. Approximately 29% of the work on the project was completed prior to the suspension of work. Most of the completed work was the fabrication of steel piles. The original contract cost for the project was \$177 million. On July 29, 2005, Caltrans notified the contractor to restart the work on the project. The proposal for the revised schedule was received from the contractor on September 23, 2005. The contractor has signed a change order involving contract changes and compensation for the suspension and re-start of work. Contractor has set the steel template for the piling for the T1 foundation and is continuing with field preparations for the restart work.

#### Contract Issues:

Issue	Mitigating Action
Gaining firm commitment dates for cost-effective steel delivery from suppliers as part of E2/T1 Foundations restart is critical to resuming work.	Caltrans is focused on staying current with issues concerning the restart of the steel supply, to include replacing suppliers if required.

**Recent TBPOC Actions:** In November 2005, the TBPOC approved CCO #29 concerning the restart of work on this contract. This executed CCO added \$81 million in cost (within the contract budget) and reduced the contract schedule by 3 months.

## Project Photographs



T1 = Foundation for the 530-foot steel tower  
 E2 = Eastern Support of the suspension roadway  
 W2 = Western Support of the suspension roadway



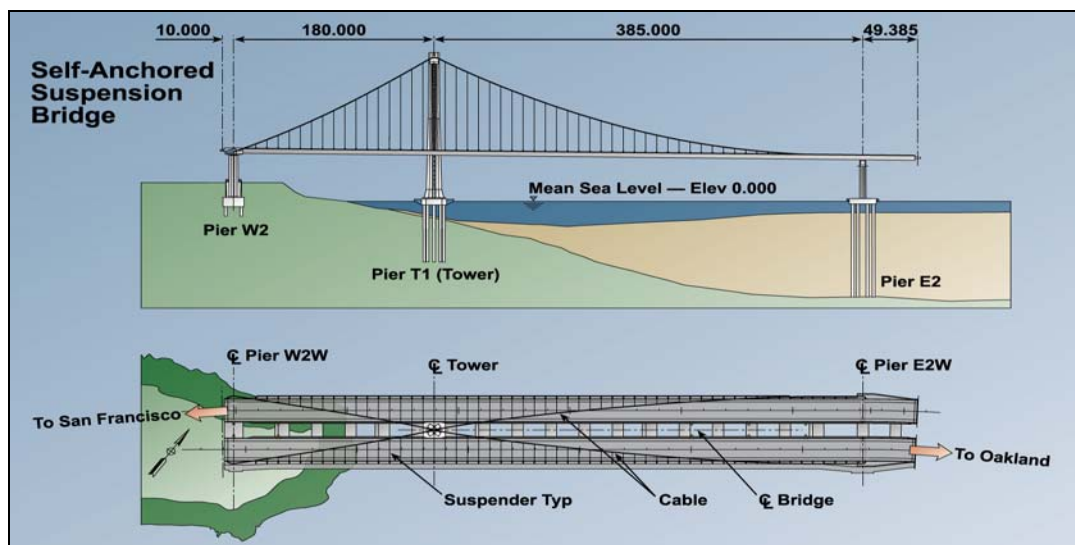
T1 Template before placement



Pile Template for the T1 foundation viewed from YBI



T1 Template as seen from Pier 1 Treasure Island



## Toll Bridge Seismic Retrofit Program

### San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project

#### ► YERBA BUENA ISLAND (YBI) SOUTH/SOUTH DETOUR CONTRACT

**Contract Description:** The Yerba Buena Island (YBI) South/South Detour Contract constructs a temporary detour from the YBI tunnel to the existing east span of the Bay Bridge. This detour maintains traffic on the existing bridge while the YBI Transition Structure Contract completes the tie-in from the SAS to the existing tunnel.

#### YBI South/South Detour Cost Summary (\$Millions)

Contract	AB 144 / SB 66 Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
YBI South/South Detour						
Capital Outlay Support	29.5	-	29.5	13.9	29.5	-
Capital Outlay Construction	131.9	-	131.9	30.0	131.9	-
<b>TOTAL</b>	<b>161.4</b>	<b>-</b>	<b>161.4</b>	<b>43.9</b>	<b>161.4</b>	<b>-</b>

*Note: Details may not sum to totals due to rounding effects.*

#### YBI South/South Detour Schedule Summary

Contract	Baseline Contract Completion Date	Forecast Contract Completion Date	Variance (Months)
YBI South / South Detour *	July 2007	July 2007	-

\* Contract schedule under assessment. See Contract Issues below.

**Contract Status:** The contract is 35% complete as of December 20, 2005. To minimize impacts on the traveling public, portions of the East and West Tie-in operations remain suspended. The contract is performance based, whereby the contractor is responsible for both designing and constructing the detour structures. The contractor has formed and poured columns at Bents 48 and 49. Construction of the other bents is also in progress. The contractor's engineer continues to perform design work on the east and west tie-in structures for the detour.

Caltrans is forecasting a \$1.9 million increase in cost for the South/South Detour contract due to an extension of the contract to integrate with the schedule of the re-advertised SAS contract. See Contract Issues below.

#### Contract Issues:

Issue	Mitigating Action
Delay to the SAS contract due to re-advertising and Addenda #5 and #7 to the SAS contract has extended the South/South Detour Contract, so as to integrate with the SAS schedule.	CCO #24 included a contract time extension to July 1, 2007 in order to align the schedule for this contract with the schedule requirements on the SAS contract. The SAS completion being extended by 12 months due to Addenda #5 and #7 has resulted in further changes to the South-South Detour contract including additional time extensions or scope changes. Caltrans will be evaluating impact and different options for this Contract to mitigate impact of the impending SAS schedule change.

**Recent TBPOC Actions:** In December 2005 the TBPOC approved CCO #24 which provided a time extension to the contract along with compensation for time related overhead made necessary by changes to the SAS contract schedule. Total cost for this CCO is \$7 million. Total time added to the schedule is 381 days. Note that the Baseline Contract Completion Date shown above already accounts for the impact of this CCO.



**Contract Photographs**

*Temporary Bypass Structure (in yellow)*



*Construction of Bent 48 grade beams along the former Southgate Road on Yerba Buena Island*



*Construction of columns for the viaduct portion of the Temporary Bypass Structure (TBS) adjacent to the U.S. Coast Guard Road on Yerba Buena Island*



## Toll Bridge Seismic Retrofit Program

### San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project

#### ► OTHER MAJOR CONTRACTS IN DESIGN

**Contract Description:** Caltrans is currently designing a number of other major construction contracts that will be necessary prior to opening the new east span, including the Oakland Touchdown and the YBI Transition Structure. Following opening of the new bridge, the existing bridge will be removed with the Bridge Demolition contract.

#### Other Major Contracts Cost Summary (\$Millions)

Contract	AB 144 / SB 66 Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
Capital Outlay Support	238.8	-	238.8	31.2	256.5	17.7
Capital Outlay Construction						-
YBI Transition Structure	299.3	-	299.3	-	318.4	19.1
Oakland Touchdown	283.8	-	283.8	-	272.7	(11.1)
Existing Bridge Demolition	239.2	-	239.2	-	222.0	(17.2)
Stormwater Treatment Measures	15.0	-	15.0	-	15.0	-
Total Capital Outlay Construction	837.3	-	837.3	-	828.1	(9.2)
<b>TOTAL</b>	<b>1,076.1</b>	<b>-</b>	<b>1,076.1</b>	<b>31.2</b>	<b>1,084.6</b>	<b>8.5</b>

*Note: Details may not sum to totals due to rounding effects.*

#### Other Major Contracts Schedule Summary

Project	Baseline Project Completion Date	Forecast Project Completion Date	Variance (Months)	Design % Complete
Stormwater Treatment Measures	March 2008	July 2008	4	100
YBI Transition Structure	November 2013	November 2014	12	80
Oakland Touchdown	November 2013	November 2014	12	TBD
Existing Bridge Demolition	September 2014	September 2015	12	10

#### Contract Status:

**Stormwater Treatment Measures:** This contract to implement best practices for stormwater runoff treatment will be advertised in early 2006. BATA approved the bid documents for this project for advertisement on October 26, 2005.

**Oakland Touchdown:** The TBPOC authorized Caltrans to split the Oakland Touchdown project into multiple contracts to accelerate work and to reduce the risk of any of this work impacting the critical path for the project. The first contract would construct all the marine foundation work and west-bound approach work earlier to keep the work off the project's critical path and is forecast to be complete in July 2009. The second contract would construct the remaining east-bound approach when west-bound traffic is shifted onto the new SAS and is forecast to be complete in May 2014. The third contract would replace the existing submarine electrical cable from Oakland to Treasure Island and it is forecast to be completed in July 2007. It will be the first to be

constructed to avoid possible construction conflicts. The fourth contract would incorporate most of the electrical elements from OTD as well as from other segments of the East Span into a single contract and is currently being scoped. Due to the split, the capital outlay forecast for this work has been reduced from \$283.8 million to \$272.7 million, saving \$11.1 million. However, the capital outlay support for the contract was increased to cover the additional work to split the contract and to administer four separate contracts over a longer duration rather than the original single contract. This COS impact is estimated at \$17.7 million, and includes engineering, support and administration costs. Currently, these charges can be funded from contingencies in Other Budgeted Capital. Caltrans recently issued for review 95% Plans, Specifications, Engineer's Estimate (PSE) documents for the Relocation of the Existing Submarine Cable. The contract schedule completion date has been extended by 12 months due to a 12-month delay to the East Bound Open to Traffic date caused by the impact to the SAS contract completion due to SAS Addenda #5 and #7.

**YBI Transition Structure:** This contract is currently being designed by Caltrans. Caltrans has also initiated a value analysis effort on the project to evaluate the current design. Recent changes in the SAS contract, including the elimination of the completion milestone for the W2 cap beam and the 6-month extension to overall SAS completion, would affect the packaging and phasing options for the YBI Transition Structure contract. As part of an ongoing cost review process, Caltrans is reporting a \$19.1 million increase in the Estimate at Completion amounts for the contract. Most of the cost increase is due to a higher estimate for electrical work and scheduling. Currently, these charges can be funded from contingencies in Other Budgeted Capital. The contract schedule completion date has been extended by 12 months due to a 12-month delay to the East Bound Open to Traffic date caused by the impact to the SAS contract completion due to SAS Addenda #5 and #7.

**Bridge Demolition:** Design is 10% complete and currently on hold. Caltrans recent budget estimates reduce the budget for the demolition work by \$17.2 million due to a re-evaluation of the cost escalation rates. The contract schedule completion date has been extended by 12 months due to a 12-month delay to the East Bound Open to Traffic date caused by the impact to the SAS contract completion due to SAS Addenda #5 and #7.

**Recent TBPOC Actions:** None.

#### Contract Photographs



*Artist's Rendition of Oakland touchdown Aerial View*

## Toll Bridge Seismic Retrofit Program

### San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project

#### ► OTHER COMPLETED CONTRACTS AND RELATED WORK

**Summary Description:** Substantial work has already been performed on the SFOBB East Span Replacement project to facilitate construction of the mainline construction contracts.

#### Other Contracts and Related Work Cost Summary (\$Millions)

Contract	AB 144 / SB 66 Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
Capital Outlay Support	227.0	-	227.0	208.9	227.0	-
Right-of-Way and Environmental Mitigation	72.4	-	72.4	38.7	72.4	-
Capital Outlay Construction						-
SAS W2 Foundations	26.4	-	26.4	25.7	26.4	-
YBI/SAS Archeology	1.1	-	1.1	1.1	1.1	-
YBI - USCG Road Relocation	3.0	-	3.0	2.8	3.0	-
YBI - Substation and Viaduct	11.6	-	11.6	11.2	11.6	-
Oakland Geofill	8.2	-	8.2	8.2	8.2	-
Pile Installation Demonstration Project	9.2	-	9.2	9.2	9.2	-
Existing East Span Retrofit	30.8	-	30.8	30.8	30.8	-
Total Capital Outlay Construction Completed	90.3	-	90.3	89.0	90.3	-
<b>TOTAL</b>	<b>389.7</b>	<b>-</b>	<b>389.7</b>	<b>336.6</b>	<b>389.7</b>	<b>-</b>

*Note: Details may not sum to totals due to rounding effects.*

#### Other Contracts and Related Work Schedule Summary

Project	Actual Project Completion Date
Existing East Span Retrofit	March 1998
Interim Retrofit	July 2000
Pile Installation Demolition Project	December 2000
YBI / SAS Archaeology	January 2003
Oakland Geofill	April 2003
YBI – USCG Road Relocation	June 2004
SAS W2 Foundations	October 2004
YBI Substation and Viaduct	May 2005

**Summary Status:** Construction has been completed on the above listed contracts. Caltrans continues to work with various environmental agencies to conduct compliance inspections and monitor and mitigate any environmental impacts from the project.

**Contract Issues:** None.

**Recent TBPOC Actions:** None.

### Project Photographs



*San Francisco-Oakland Bay Bridge Night View*



*San Francisco-Oakland Bay Bridge Aerial View*



*Completed W2 pier columns at the Yerba Buena Island, which will be the western support of the Self-Anchored Suspension (SAS) Structure*

## Toll Bridge Seismic Retrofit Program

### San Francisco-Oakland Bay Bridge (SFOBB) West Approach Replacement Project

**Project Description:** The SFOBB West Approach Replacement Project will replace the entire west approach structure from the 5<sup>th</sup> Street to the west anchorage of the existing west spans of the SFOBB while maintaining existing traffic lanes for the weekday commute.

#### SFOBB West Approach Replacement Cost Summary (\$Millions)

Contract	AB 144 / SB 66 Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
West Approach						
Capital Outlay Support	120.0	-	120.0	71.2	120.0	-
Capital Outlay Construction	309.0	-	309.0	178.4	309.0	-
<b>TOTAL</b>	<b>429.0</b>	<b>-</b>	<b>429.0</b>	<b>249.6</b>	<b>429.0</b>	<b>-</b>

*Note: Details may not sum to totals due to rounding effects.*

#### SFOBB West Approach Replacement Schedule Summary

Project	Baseline Project Completion Date	Forecast Project Completion Date	Variance (Months)
West Approach	August 2009	August 2009	-

**Project Status:** Construction work is 63% complete as of December 20, 2005, which includes mobilization. Seismic retrofitting construction is continuing throughout the project. Major work during the period include CIDH and CISS pile driving operations for the mainline, 5th Street and Harrison off ramps. Falsework for Frame 7U(N), and the preparation and steel work prior to the early Spring 2006 demolition of Frame 8U(N) continued. The 4th Street retrofit work also continues. Progress also continues on the development of the workplan for the demolition of frame 8U(N). The TBPOC will be briefed in March 2006 on the traffic management and workplan for this scope that will be accomplished in the field in May 2006.

#### Project Issues:

Issue	Mitigating Action
Ensuring the demolition of Frames 7U(S) and 8U(S) in September 2006 in a way that optimizes schedule and minimizes impact to traffic.	The proposed demolition workplan and traffic management / closure plans will be presented to the TBPOC in February 2006.

**Recent TBPOC Actions:** None.



## Project Photographs



4 Sections Frames 7U - 8U



4 Sections Frames 7U - 8U



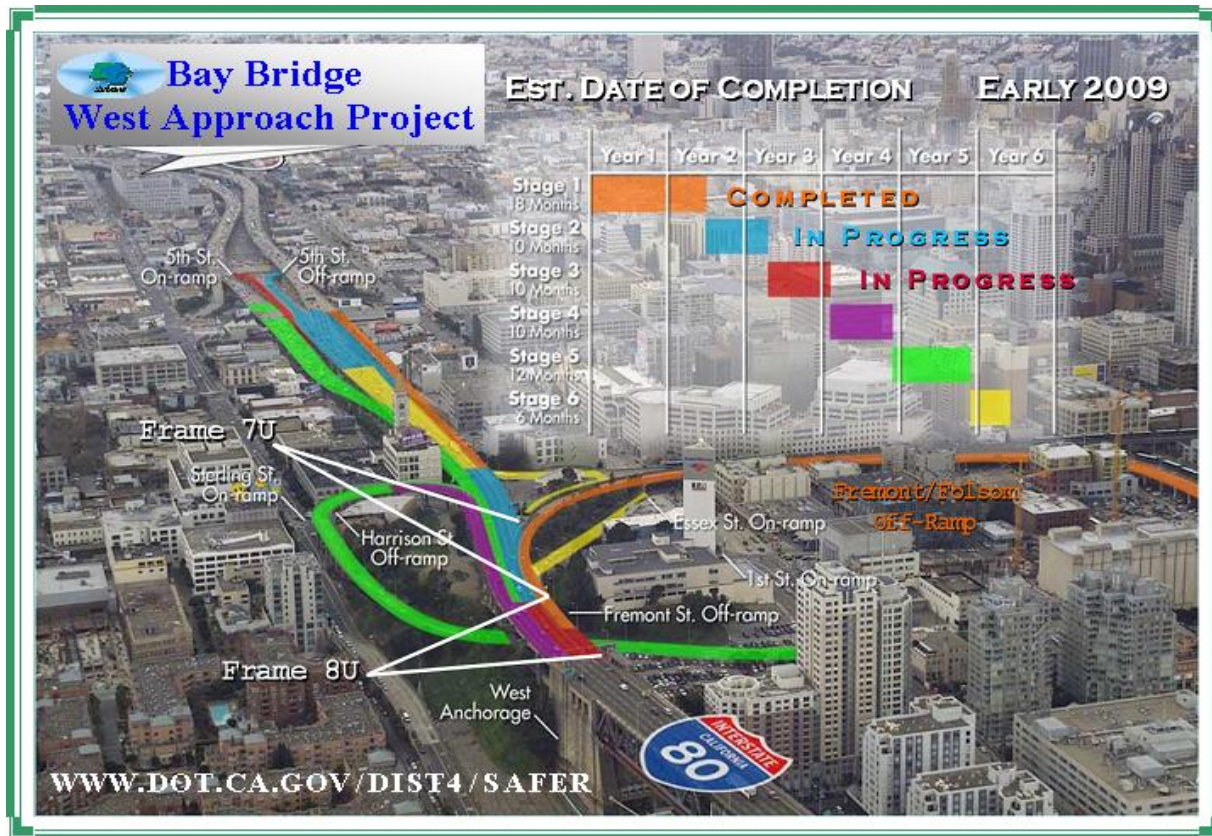
Interim Eastbound I-80: Stage 6 Detour (ST6D)

West Approach at 4<sup>th</sup> Street looking east.

New Frame 7U north Falsework



New 5th Street off ramp Bents 1 thru 5, CISS Piles



West Approach Project Stages



## Toll Bridge Seismic Retrofit Program

### Richmond-San Rafael Bridge (RSRB) Seismic Retrofit Project

**Project Description:** The Richmond-San Rafael (RSR) Bridge Seismic Retrofit Project strengthened the existing bridge to withstand the effects of a large seismic event. As part of the retrofit work, Caltrans performed work to strengthen the bridge foundations, replace the existing west trestle, the main channel fenders, and the joint rehabilitation of the bridge deck. (The RM1 work is reported in the RM1 section of the report).

#### RSRB Seismic Retrofit Cost Summary (\$Millions)

Contract	AB 144 / SB 66 Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
RSRB Seismic Retrofit						
Capital Outlay Support	134.0	-	134.0	122.6	127.0	(7.0)
Capital Outlay Construction	780.0	-	780.0	666.4	698.0	(82.0)
<b>TOTAL</b>	<b>914.0</b>	<b>-</b>	<b>914.0</b>	<b>789.0</b>	<b>825.0</b>	<b>(89.0)</b>

Note: Details may not sum to totals due to rounding effects.

\* The seismic retrofit contract included work to rehabilitate the bridge deck joints. Although the deck joint work was funded from RM1 toll funds, the work is also eligible for Toll Bridge Seismic Retrofit Program funding. In July 2005, BATA rescinded \$16.9 million in RM1 funds for the deck joint work to make additional RM1 funds available for the New Benicia-Martinez Bridge Project. An equivalent amount of seismic funds will be used on the deck joint work, which is included in the budget above. This issue is also discussed in the RM1 portion of the report on page 38.

#### RSRB Seismic Retrofit Schedule Summary

Project	Baseline Project Completion Date	Forecast Project Completion Date	Variance (Months)
RSRB Seismic Retrofit	August 2005	October 2005	2

**Project Status:** Caltrans achieved seismic safety on the bridge in July 2005. Caltrans is expecting at least \$89 million in savings from the AB 144 / SB 66 budget. The construction contract was completed and accepted on October 28, 2005. A Proposed Final Estimate has been submitted to the contractor, who has a deadline of January 6, 2006 to respond. Caltrans is in the process of finalizing project plans and specifications for a public access lot on the Marin side of the bridge to comply with a Bay Conservation and Development Commission (BCDC) permit condition.

**Contract Issues:** None.

**Recent TBPOC Actions:** None.

## Toll Bridge Seismic Retrofit Program

### Other Completed Seismic Retrofit Projects

**Summary Description:** Caltrans has already completed the seismic retrofits of the West Spans of the SFOBB, the existing 1958 Carquinez Bridge, the existing Benicia-Martinez Bridge, the San Mateo-Hayward Bridge, and two former toll bridges in southern California.

#### Other Completed Seismic Retrofit Projects Cost Summary (\$Millions)

Project	AB 144 / SB 66 Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
San Francisco-Oakland Bay Bridge West Span Seismic Retrofit Project	307.9	-	307.9	300.9	307.9	-
Carquinez Bridge Retrofit Project	114.2	-	114.2	114.2	114.2	-
Benicia-Martinez Bridge Retrofit Project	177.8	-	177.8	177.8	177.8	-
San Mateo-Hayward Bridge Retrofit Project	163.5	-	163.5	163.4	163.5	-
Vincent Thomas Bridge Retrofit Project	58.5	-	58.5	58.4	58.5	-
San Diego-Coronado Bridge Retrofit Project	103.5	-	103.5	102.6	103.5	-
<b>TOTAL</b>	<b>925.4</b>	<b>-</b>	<b>925.4</b>	<b>917.3</b>	<b>925.4</b>	<b>-</b>

*Note: Details may not sum to totals due to rounding effects. Capital Outlay Support and Capital Outlay have been combined.*

#### Other Completed Seismic Retrofit Projects Schedule Summary

Project	Actual Project Completion Date
Vincent Thomas Bridge Retrofit	May 2000
San Mateo-Hayward Bridge Retrofit	June 2000
Carquinez Bridge Retrofit	January 2002
San Diego-Coronado Bridge Retrofit	June 2002
Benicia-Martinez Bridge Retrofit	August 2002
SFOBB West Span Seismic Retrofit	June 2004

**Summary Status:** Construction has been completed on the above listed projects. The Estimate at Completion amounts shown above include allowances for minor project closeout costs.

**Contract Issues:** None.

**Recent TBPOC Actions:** None.

## Toll Bridge Seismic Retrofit Program

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### *Other Toll Bridges*

#### **Dumbarton and Antioch Bridges**

The original design of the Dumbarton and Antioch Bridges were based on design criteria developed after the 1971 San Fernando Earthquake. In the early 1990's, Caltrans determined that these two structures had the seismic resistant features required by the post 1971 codes and were not likely to be vulnerable during a major seismic event. Since that time, Caltrans has pursued an aggressive seismic research program, and based on the results of this program, significantly revised its seismic design practice in the late 1990's. Consistent with recommendations by the Caltrans Seismic Advisory Board, Caltrans regularly reassesses the seismic hazard and performance of its bridges. Due to the tremendous changes in seismic design practice that have occurred since the design of the Dumbarton and Antioch bridges, a comprehensive assessment of the potential need and scope for seismic retrofit based on current knowledge is prudent.

#### **Previous Reports**

A number of limited studies have been made of these bridges in the past. However, none of the studies have fully assessed the seismic performance of the structures under current standards.

#### **Vulnerability Studies**

In late 2004, Caltrans initiated vulnerability studies on the Dumbarton and Antioch bridges. The purpose of these studies was to determine if the bridges would meet current seismic performance standards. The studies were essentially completed in May 2005. They were not a complete global analysis, but rather an investigation of selected bents modeled as independent structures. The analysis was limited in scope and based on as-built plans and currently available geotechnical information. The superstructure response was not analyzed.

The Dumbarton and Antioch Bridges have many seismic resistant features, and the results of the vulnerability studies indicate that the bridges should perform well in a moderate seismic event. However, during a major seismic event, some potential vulnerabilities (summarized below) become apparent.

- ◆ Foundation response generally governs performance. The piles may plunge axially and potentially cause permanent footing rotations.
- ◆ Potentially large foundation displacements and rotations may result in deformations that can't be easily repaired.
- ◆ The bent cap, pile cap, pile and superstructure are not capacity protected by the ductile columns and, as a result, these elements may be damaged in a major event, especially if the foundation is retrofitted.

Given the limitations of the studies, there was insufficient evidence to conclusively determine the performance of the bridges during a maximum credible earthquake (MCE). While the Dumbarton and Antioch bridges may meet performance standards, a more comprehensive technical study is necessary to understand the performance of these structures during an MCE event. A study of this level is necessary to accurately determine the structures' response and to develop any necessary retrofit strategies. A comprehensive geotechnical study using the latest analysis techniques is likely necessary in order to perform this level of analysis.

**Sensitivity Analysis**

As a follow-up to the Vulnerability Study, a sensitivity analysis is being performed on a single representative bent used in the Vulnerability Study (Bent 23 of the Dumbarton Bridge). The goal of the analysis is to determine the structural response associated with uncertainties in the geotechnical data. An envelope of soil conditions (best-case and worst case scenarios) was used in the analysis. The results of the Sensitivity Analysis will be used to determine the scope and value of conducting further geotechnical studies.

While the Sensitivity Analysis is ongoing, preliminary results indicate that the seismic response of the bridge is largely dependant on the soil conditions and that a comprehensive geotechnical investigation is essential for understanding the bridge's performance during a major seismic event. A work plan is being developed to assess the extent of geotechnical work needed for a complete seismic analysis and to assess the required performance levels for each structure.

**Cost and Schedule**

A preliminary cost estimate, schedule, and an initial risk analysis have been developed to complete a comprehensive seismic analysis for each bridge. The preliminary estimate and schedule were developed as a baseline assuming a complete geotechnical and geophysical investigation is required at each bridge.

The TBPOC will consider how to proceed with this comprehensive seismic analysis in the coming months, and will update the Legislature in the First Quarter report for 2006.

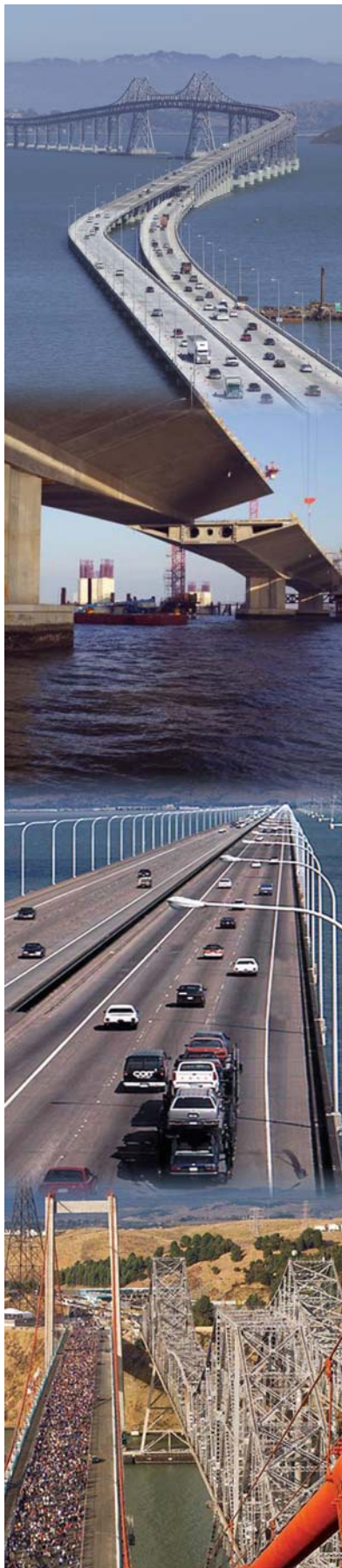


*Antioch Bridge*



*Dumbarton Bridge*





## PROJECT / CONTRACT REPORTS

### Regional Measure 1 Program

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#### New Benicia-Martinez Bridge Project Summary

- New Benicia-Martinez Bridge Contract
- Other Contracts and Related Project Activities

#### New Carquinez Bridge Project

#### Richmond-San Rafael Bridge Trestle, Fender, and Deck Joint Rehabilitation Project

#### Richmond-San Rafael Bridge Trestle Deck Overlay Project

#### Interstate 880 / State Route 92 Interchange Reconstruction

#### Other Completed Regional Measure 1 Projects

- San Mateo-Hayward Bridge Widening Project
- Richmond Parkway Project
- Bayfront Expressway Widening Project

## Regional Measure 1 Program

### New Benicia-Martinez Bridge Project Summary

**Project Description:** The new Benicia-Martinez Bridge project constructs a new parallel bridge just east of the existing bridge. The project will include reconstructed interchanges to the north and south of the bridges and a new toll plaza and administration building in Martinez.

#### New Benicia-Martinez Bridge Project Cost Summary (\$Millions)

Contract	June 2005 BATA Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
Capital Outlay Support	157.1	21.1	178.2	142.0	178.2	-
Right-of-Way and Others	20.4	(0.1)	20.3	12.0	20.3	-
Capital Outlay Construction						-
New Bridge*	672.0	112.0	784.0	582.2	784.0	-
I-680/I-780 Interchange Replacement*	76.3	16.1	92.4	67.9	92.4	-
I-680/Marina Vista Interchange Reconstruction	51.5	3.4	54.9	52.0	54.9	-
New Toll Plaza	24.3	2.0	26.3	17.6	26.3	-
Existing Bridge & Interchange Modifications	17.2	10.9	28.1	-	28.1	-
Other	20.3	(1.3)	19.0	15.0	19.0	-
Project Reserve	20.8	39.0	59.8	-	59.8	-
<b>TOTAL</b>	<b>1,059.9</b>	<b>203.1</b>	<b>1,263.0</b>	<b>888.7</b>	<b>1,263.0</b>	<b>-</b>

Note: Details may not sum to totals due to rounding effects.

\* The budget and estimate at completion includes approximately \$33 million in non-toll bridge funds (Proposition 192 and SHOPP).

#### New Benicia-Martinez Bridge Project Schedule Summary

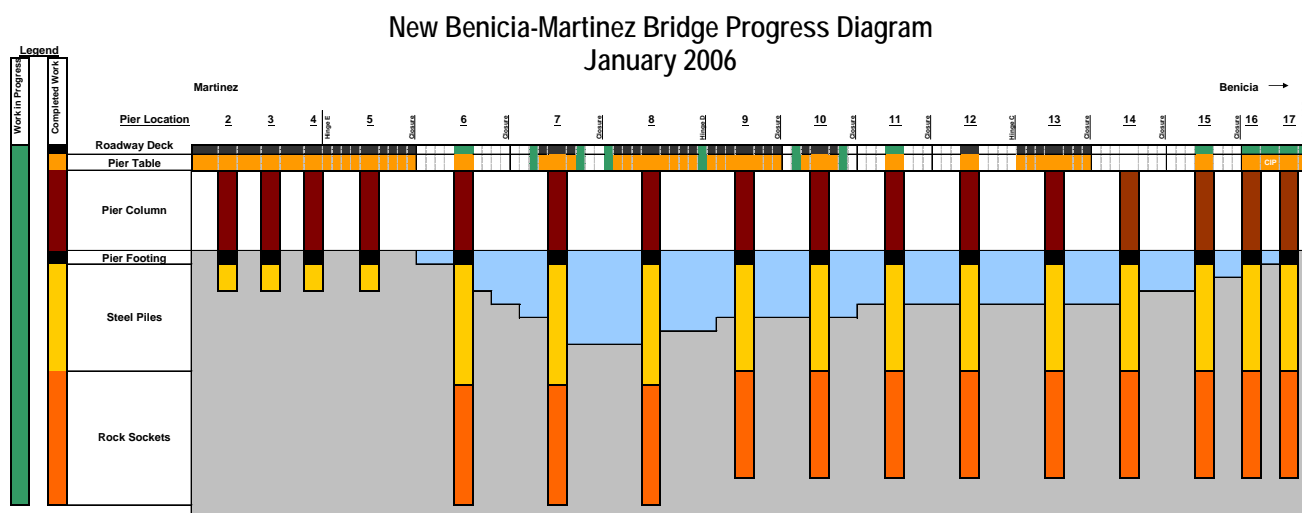
Project	Baseline Project Completion Date	Forecast Project Completion Date	Variance (Months)
I-680/Marina Vista Interchange Reconstruction	March 2006	March 2006	-
New Toll Plaza	June 2006	August 2006	2
New Benicia-Martinez Bridge	December 2007	December 2007	-
I-680/I-780 Interchange Replacement	December 2007	February 2008	2
Open to Traffic	December 2007	December 2007	-
Existing Bridge & Interchange Modifications	December 2009	December 2009	-

**Project Status:** All major construction projects necessary to open the bridge are currently in construction. Numerous foundation and superstructure issues have significantly delayed the new bridge contract. See the following contract detail pages for more information. Note that the remaining expenditures required on the "Right-of-Way and Others" category represents environmental permitting and mitigation. On December 21, 2005, BATA approved a budget increase resulting in a revised total of \$1.263 billion.

### Project Issues

Issue	Mitigating Action
To open the bridge, Caltrans will have to coordinate opening and close-out activities among the different contractors that will be active on the project. These activities including structural bridge and electrical tie-ins have been complicated by the delays to the new bridge. As identified in Caltrans Risk Management Plan, these delays also may further escalate support and material costs on the project.	Based on the Caltrans Risk Management Plan, BATA has budgeted a program contingency to fund these potential increases. Caltrans also is completing a comprehensive schedule of all activities necessary to open the new bridge to traffic. As necessary, Caltrans will be negotiating with their contractors to resolve any final opening and close-out activities to open the bridge.

**Recent TBPOC Actions:** See the following contract detail pages for more information.



### Project Photographs



*Benicia Toll Plaza - Toll Booth Canopy showing the ceiling grid*



*Marina Vista - looking from 680NB Off ramp - EPS Block Installation*

## Regional Measure 1 Program

### New Benicia-Martinez Bridge Project

#### ► NEW BENICIA-MARTINEZ BRIDGE CONTRACT

**Contract Description:** The new bridge contract constructs a new cast-in-place segmentally constructed reinforced concrete bridge just east of the existing bridge. The new bridge will carry five lanes of eastbound I-680 traffic towards Benicia.

#### New Benicia-Martinez Bridge Cost Summary (\$Millions)

Contract	June 2005 BATA Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
New Benicia-Martinez Bridge						
Capital Outlay Support	84.9	7.3	92.2	69.5	92.2	-
Capital Outlay Construction	672.0	112.0	784.0	582.2	784.0	-
<b>TOTAL</b>	<b>756.9</b>	<b>119.3</b>	<b>876.2</b>	<b>651.7</b>	<b>876.2</b>	<b>-</b>

*Note: Details may not sum to totals due to rounding effects.*

#### New Benicia-Martinez Bridge Schedule Summary

Contract	Baseline Contract Completion Date	Forecast Contract Completion Date	Variance (Months)
New Benicia-Martinez Bridge	December 2007	December 2007	-

**Contract Status:** The contract is 83 % complete. The superstructure concrete is in place and post tensioned from the south abutment to pier 4, and barrier rail construction is in progress. Superstructure segments have been cast at piers 5, 9, and most recently 13, while segments are being cast at piers 7, 8, and 10. Travelers from pier 13 will be moved to pier 12, after some refurbishing work in Vallejo. In order to maintain concrete temperature within the specified limits, cooling tubes are being installed in the segments and a nitrogen station is in operation for cooling the concrete in the delivery trucks. 151 of 344 segments are complete as of the end of December 2005, for the above mentioned piers. Ten tower cranes are installed and operational. Pier table construction continues at piers 6, 11 and 15, and column construction is complete at piers 14. For Frame 4 cast on falsework, barrier rails, approach slab work, isolation casing covers, grading for drainage and slope paving are complete, however, approximately 10% of the deck surface are not acceptable. Bridge deck repairs will be needed in large areas around pier 3 due to poor quality of concrete at surface even after grinding. Contractor is still investigating deck repair options (epoxy versus polyester overlay). Grinding on bridge deck was performed from 12 feet north of the end of the structural approach slab to pier 3. However, additional profilographing, skid testing and grinding will be needed at approach slab and north of pier 3. On Frame 1 Cast-on Falsework, the bottom slab in span 16 and the bottom slab of P17 diaphragm are complete. Continued work on forms, rebar and PT in stem walls of Spans 15, 16 and 17, including the Span 16 intermediate diaphragm. The risk management plan for the contract included \$6 million for a potential adverse ruling on prevailing wages for tugboat operators. A finding from the Department of Industrial Relations ruled in favor of Caltrans. The risk management funds will be left in the project contingency.



**Contract Issues**

Issue	Mitigating Action
<p>Over the next seven months, construction of the first of two mid-span hinges will occur. At the present time, there are no issues presently facing the project associated with hinge construction. However, these hinges represent a unique and complex element of the bridge construction.</p> <p>There are several areas of concern in the construction of this first hinge. Risk items include: superstructure alignment/geometry control, steel box girder alignment, rebar congestion, and bearing installation.</p>	<p>Over the last several months, meetings with the contractor and Caltrans staff were held to identify potential problem areas, as well as appropriate solutions to these issues should they occur. Also, the pedestal endpoints will be under continuous survey control and measurement to detect any trends in alignment and deflections. These actions will continue throughout the construction of the hinges.</p>

**Recent TBPOC Actions:** In October 2005, the TBPOC approved CCO's #109.4 (Pile Construction Joint Reparation), #110.5 (Pile Anomaly Repair) and #133.1 (Heat of Hydration). In November 2005, the TBPOC approved CCO #117.1 (Steel Escalation). In aggregate, these CCOs added \$70.5 million in cost and extended the contract schedule by 3 months, which was already included in the baseline contract completion date.

**Contract Photographs**

*Span 17 Falsework/Trellis*



*Pier Table 6 Work*



*Closure Deck between Frames 4 & 5 of New Bridge*



*Frame 1 of New Bridge*



## Regional Measure 1 Program

**New Benicia-Martinez Bridge Project Summary**► **OTHER CONTRACTS AND RELATED PROJECT ACTIVITIES**

**Contract Description:** Contracts related to the new Benicia-Martinez Bridge project involve the construction of a new toll plaza south of the new bridge in Contra Costa County with 17 toll booths, including two high-occupancy vehicle (HOV) bypass lanes, and the reconstruction of the I-680/Marina Vista Road and I-680/I-780 interchanges.

**Other Contracts and Related Activities Cost Summary (\$Millions)**

Contract	June 2005 BATA Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
Capital Outlay Support	72.2	13.8	86.0	72.5	86.0	-
Right-of-Way and Environmental Mitigation	20.4	(0.1)	20.3	12.0	20.3	-
Capital Outlay Construction						-
I-680/I-780 Interchange Replacement	76.3	16.1	92.4	67.9	92.4	-
I-680/Marina Vista Interchange Reconstruction	51.5	3.4	54.9	52.0	54.9	-
New Toll Plaza	24.3	2.0	26.3	17.6	26.3	-
Existing Bridge & Interchange Modifications	17.2	10.9	28.1	-	28.1	-
Others	20.3	(1.3)	19.0	15.0	19.0	-
Total Capital Outlay Construction	189.6	31.1	220.7	152.5	220.7	-
<b>TOTAL</b>	<b>282.2</b>	<b>44.8</b>	<b>327.0</b>	<b>237.0</b>	<b>327.0</b>	<b>-</b>

Note: Details may not sum to totals due to rounding effects.

**Other Contracts and Related Activities Schedule Summary**

Project	Baseline Project Completion Date	Forecast Project Completion Date	Variance (Months)
I-680/Marina Vista Interchange Reconstruction	March 2006	March 2006	-
New Toll Plaza	June 2006	August 2006	2
I-680/I-780 Interchange Replacement	December 2007	February 2008	2
Existing Bridge & Interchange Modifications	December 2009	December 2009	!

**Contract Status:**

**Toll Plaza and Administration Building:** The contract is 79 % complete. The Contractor continued to install the Toll Booth canopy roofing and the metal railings for the stairs connecting the tunnel and the toll booths. Work on the installation of steel doors, dampers and heaters at the toll booth began. Installation of the joist beams between the perimeter and the ring beam for the Courtyard Canopy continued. The contract has been operating under liquidated damages since October 11, 2005, which is the current extended contract completion date. A hearing with the Dispute Resolution Board (DRB) will be held late January 2006 to review NOPC # 39, Liquidated Damages.

**I-680/I-780 Interchange:** The contract is approximately 83% complete. All footings, bents, and columns for Bridge 215, which is the northbound I-680 connection from pier 17, are complete, and superstructure works are in progress. The Contractor continued to build the trestle for Span 17 falsework, and the Span 20 lost deck. All foundations, bents, and columns for bridges 212 and 214, the westbound I-780 connector, are complete. Superstructure work is in progress for bridge 212, with the Contractor forming decks at span 20 and 21. The completion of final electrical work is delayed until April 2008, based on the completion of the new bridge by December 30, 2007.

**I-680/Marina Vista Interchange:** The contract is approximately 93% complete. While falsework removals for the Mococo Overhead Bridge and the On Ramp Bridge have been completed, and falsework materials continued to be demobilized from the jobsite. Class 1 finishing of the Retaining Wall # 1 is on-going. The Contractor continued placement of the Expandable Polystyrene (EPS) Block along the CCNB line between Station 97+00 and the Mococo Overhead On-Ramp Bridge, as well as, continued to pull conductor wires for the street and signal lights at Mococo Road, Waterfront Road and the NB/SB Off-Ramp/On-Ramp intersection.

**Wetland Mitigation:** The contract is 98% complete and is scheduled for completion in February 2006. The only remaining work for this contract is the erosion control application, which is scheduled to be done this month.

**Contract Issues**

Issue	Mitigating Action
Lack of progress by the contractor on the Toll Plaza and Administration Building contract.	A Dispute Resolution Board (DRB) hearing will be held in late January 2006 to resolve NOPC #39 concerning liquidated damages.

**Recent TBPOC Actions:** In October 2005, concerning the I-680/Marina Vista Interchange, the TBPOC approved CCO's #25 (Contaminated Soils), and #31 (Water Treatment). Concerning the I-680/I-780 Interchange, the TBPOC approved CCO's #37.2 (Bent 14 Differing Site Conditions), and 70 (Bent 18 Differing Site Conditions). In aggregate, these CCOs added \$4.3 million in cost.

## Regional Measure 1 Program

### New Carquinez Bridge Project

**Project Description:** The new Carquinez Bridge project involves constructing a new suspension bridge west of the existing bridges with four westbound lanes and a bicycle/pedestrian lane and demolishing the existing 1927 bridge.

#### New Carquinez Bridge Cost Summary (\$Millions)

Contract	June 2005 BATA Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
Capital Outlay Support	124.4	-	124.4	114.3	125.4	1.0
Capital Outlay Construction						-
Replacement Bridge	253.3	-	253.3	253.0	256.3	3.0
South Interchange Reconstruction	73.9	-	73.9	71.8	73.9	-
Existing 1927 Bridge Demolition	35.2	-	35.2	16.8	35.2	-
Other	29.3	-	29.3	25.2	28.4	(0.9)
Project Reserve	12.1	-	12.1	-	9.0	(3.1)
<b>TOTAL</b>	<b>528.2</b>	<b>-</b>	<b>528.2</b>	<b>481.1</b>	<b>528.2</b>	<b>-</b>

*Note: Details may not sum to totals due to rounding effects.*

#### New Carquinez Bridge Schedule Summary

Contract	Baseline Project Completion Date	Forecast Project Completion Date	Variance (Months)
New Carquinez Bridge	November 2003*	November 2003*	-
1927 Carquinez Bridge Demolition	December 2007	September 2007	(3)
Landscaping	August 2011	August 2011	-

\* The date shown is for the opening of the bridge to traffic.

**Project Status:** The Demolition contract is approximately 28% complete based on time and schedule. However, it is approximately 56% complete based on payment, because the big cost items in the contract were works involving the 1958 bridge approach slab replacement, which has been completed. Traffic was switched back onto the 1958 bridge on November 10, 2005. The replacement bridge and all its approaches are complete and opened to traffic. Demolition of the 1927 bridge has started at Units 7 and 3, with the deck and stringer removals. However, work was suspended on December 23, 2005, due to concern with the buckling of eyebars. The Contractor has revised their deck removal procedures on the project. Lowering at one of the major truss units is now forecast for late February or early March.

#### Project Issues:

Issue	Mitigating Action
On the Replacement Carquinez Bridge Contract, the Contractor has submitted claims for various contract issues, including claims on fabrication, labor, and access.	Caltrans is in the process of evaluating the merits of the final claims. BATA staff will direct BATA's consultant team to also evaluate the claims to determine project risk. Project reserves may need to be used.

**Project Photographs***1958 Carquinez Bridge Approach New Deck Surface**1958 Carquinez Bridge Approach Seismic Monitoring Pit**New Carquinez Bridge 1**New Carquinez Bridge 2**Sections of the 1927 and 1958 Carquinez Bridge**Carquinez Bridge Demolition-Removal of Deck and Stringers*



## Regional Measure 1 Program

### **Richmond-San Rafael Bridge (RSRB) Trestle, Fender, and Deck Joint Rehabilitation Project**

**Project Description:** This contract involves replacing the western trestle section of the bridge near San Rafael, rehabilitating the ship collision fender system at various piers, and rehabilitation of joints on the bridge deck.

#### **RSRB Trestle, Fender, and Deck Joint Rehabilitation Cost Summary (\$Millions)**

Contract	June 2005 BATA Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
RSR Trestle, Fender, and Joint Rehabilitation						
Capital Outlay Support	10.8	-	10.8	11.8	12.6	1.8
Capital Outlay Construction	91.3	-	91.3	83.1	84.5	(6.8)
Project Reserve	-	-	-	-	-	-
<b>TOTAL</b>	<b>102.1</b>	<b>-</b>	<b>102.1</b>	<b>94.9</b>	<b>97.1</b>	<b>(5.0)</b>

*Note: Details may not sum to totals due to rounding effects.*

*The Deck Joint Rehabilitation work is funded from RM1 and from Toll Bridge Seismic Retrofit Program (\$16.9 million) funds. In July 2005, BATA rescinded \$16.9 million in RM1 funds from the deck joint project. An equivalent amount of seismic retrofit funding will be used on the project. This action was taken to make additional RM 1 funds available for the Benicia-Martinez Bridge New Span project. The budget for the Richmond-San Rafael Bridge Seismic Retrofit project, shown on page 25 of this report, includes \$16.9 million of costs for the deck joint rehabilitation work.*

#### **RSRB Trestle, Fender, and Deck Joint Rehabilitation Schedule Summary**

Contract	Baseline Contract Completion Date	Forecast Contract Completion Date	Variance (Months)
Richmond-San Rafael Bridge Trestle, Fender, and Deck Joint Rehabilitation	August 2005	August 2005	-

**Project Status:** Work on this project is completed.

**Project Issues:** None

#### **Project Photographs**



*Repaired Deck Joints-Lower Deck*



*Richmond-San Rafael Trestle*



## Regional Measure 1 Program

### Richmond-San Rafael Bridge (RSRB) Deck Overlay Project

**Project Description:** Rehabilitate the existing concrete deck on the bridge, damaged due to traffic and exposure to a marine environment.

#### RSRB Deck Overlay Cost Summary (\$Millions)

Contract	June 2005 BATA Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
RSR Deck Overlay						
Capital Outlay Support	8.0	(3.5)	4.5	1.6	4.5	-
Capital Outlay Construction	16.9	3.6	20.5	-	20.5	-
<b>TOTAL</b>	<b>24.9</b>	<b>0.1</b>	<b>25.0</b>	<b>1.6</b>	<b>25.0</b>	<b>-</b>

Note: Details may not sum to totals due to rounding effects.

#### RSRB Deck Overlay Schedule Summary

Contract	Baseline Contract Completion Date	Forecast Contract Completion Date	Variance (Months)
Richmond-San Rafael Bridge Deck Overlay Rehabilitation	January 2007	January 2007	-

**Project Status:** This project is Ready to List. Design is complete, and will be advertised upon approval of funding, planned for February 2006. BAMA staff has completed an independent estimate review of the Caltrans project estimate, and has submitted to BATA for presentation to Caltrans management. The increase in the Capital Outlay Construction estimate is due to a revision of work quantities, escalation in the price of certain concrete materials and a revised allowance for construction difficulty factors.

#### Project Issues:

Issue	Mitigating Action
Caltrans has reported a higher than budgeted estimate for the construction of the project.	BATA staff has reviewed the revised estimate for the project and has made a recommendation to BATA. A shorter construction duration will allow support funding to be shifted to construction funding.

#### Project Photographs



RSR Concrete Deck Overlay

## Regional Measure 1 Program

**Interstate 880/State Route 92 Interchange Reconstruction Project**

**Project Description:** Modify the existing cloverleaf interchange to increase capacity and improve safety and traffic operations.

**Interstate 880/State Route 92 Interchange Cost Summary (\$Millions)**

Contract	June 2005 BATA Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
I-880/SR-92 Interchange Improvement						
Capital Outlay Support	28.8	-	28.8	26.3	43.2	14.4
Capital Outlay Construction	94.8	-	94.8	-	119.0	24.2
Capital Outlay Right-of-Way	9.9	-	9.9	7.3	13.0	3.1
Project Reserve	0.3	-	0.3	-	11.1	10.8
<b>TOTAL</b>	<b>133.8</b>	<b>-</b>	<b>133.8</b>	<b>33.6</b>	<b>186.3</b>	<b>52.5</b>

*Note: Details may not sum to totals due to rounding effects. \$9.6 million in ACTA funds included under Capital Outlay Construction. \$3.7 million included in Capital Outlay Construction for separate landscape contract.*

**Interstate 880/State Route 92 Interchange Schedule Summary**

Project	Baseline Project Completion Date	Forecast Project Completion Date	Variance (Months)
I-880/SR-92 Interchange Reconstruction	November 2010	December 2010	1

**Project Status:** Design is 95% complete. Caltrans continues work on the preparation of the PS&E package with 100% completion re-scheduled from January 10, 2006 to March 1, 2006. Contract package is scheduled to be advertised by August 2006 and start of construction in November 2006. Design work is being delayed further due to resolution of utility conflicts, and design and construction staging refinements. Additional utility easements may be necessary, and it will not be known until Caltrans receives the utility relocation plans from the utility companies. Caltrans continues to be in close contact with the utility companies to resolve the conflicts. Caltrans is pursuing offsite third party wetland mitigation due to 1) limited areas within the project limits that is suitable to accommodate the wetland mitigation ratio of 3:1 required the Water Board and 2) as a means of avoiding future maintenance costs. Additional right of way funds will be required to pay for off-site wetland mitigation. Right-of-way acquisition is in progress. Current right of way parcel count is 70 parcels. Of these, right of way from 50 parcels has been acquired. Caltrans is working with PG&E on the relocation of 6 poles near Lindenwood Way. Undergrounding the utilities at this location is likely. Demolition of 10 of the 12 homes is now scheduled to begin in January 2006. The remaining 2 homes may be sold with proceeds going back into the project. \$1.4 million in federal SAFETEA funds have been earmarked for this project.

**Project Issues:**

Issue	Mitigating Action
The forecast schedule includes an aggressive schedule for right-of-way acquisition that provided for 18 months to clear numerous parcels in the project area. Additional time may be required to negotiate with parcel owners and the railroad complete property acquisition.	The impact of right-of-way acquisitions on the schedule will be determined during the previously mentioned schedule assessment. Workarounds will be considered if it can prevent possible delay to the construction start. The construction contract will be advertised with an A+B specification, which could reduce the construction duration and recover the project schedule.

## Regional Measure 1 Program

### Other Completed Regional Measure 1 (RM1) Projects

**Summary Description:** Other completed Regional Measure 1 projects are the following: (a) Widen the San Mateo-Hayward Bridge along its low-trestle section and its eastern approach, (b) Widen the Bayfront Expressway (SR 84) from the Dumbarton Bridge to the U.S. 101/Marsh Road interchange, (c) Construct an eastern approach (Richmond Parkway) between the Richmond-San Rafael Bridge and Interstate 80 near Pinole, and (d) Modify the U.S. 101/University Avenue interchange.

#### Other Completed RM1 Projects Cost Summary (\$Millions)

Contract	June 2005 BATA Budget	Approved Changes	Current Budget	Cost To Date (12/2005)	Estimate at Completion	Variance
a	b	c	d = b + c	e	f	g = f - d
San Mateo-Hayward Bridge Widening Project	217.8	-	217.8	208.5	211.9	(5.9)
Bayfront Expressway Widening Project	35.3	-	35.3	33.0	34.9	(0.4)
Richmond Parkway Project	5.9	-	5.9	3.9	5.9	-
U.S. 101/University Interchange	3.8	-	3.8	3.7	3.8	-
<b>TOTAL</b>	<b>262.8</b>	<b>-</b>	<b>262.8</b>	<b>249.1</b>	<b>256.5</b>	<b>(6.3)</b>

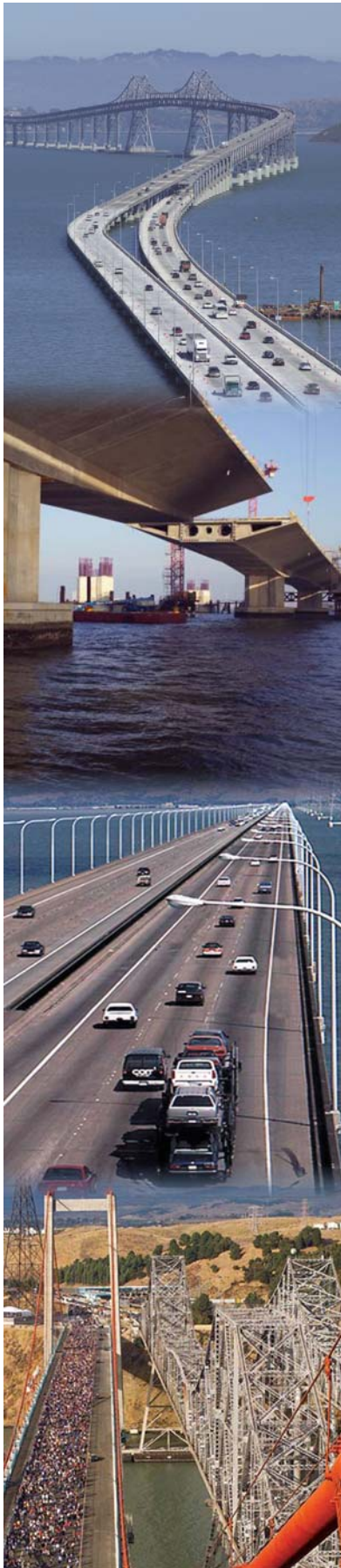
#### Schedule Summary

Project	Actual Project Completion Date
Richmond Parkway Project	May 2001
San Mateo-Hayward Bridge Widening Project	February 2003
Bayfront Expressway Widening Project	January 2004
U.S. 101/University Interchange	April 2004

**Project Status:** Construction has been completed on the above listed contracts.

**Project Issues:** None.

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## APPENDICES

- A** Toll Bridge Seismic Retrofit Program:  
San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project Cost  
Detail
- B** Toll Bridge Seismic Retrofit Program Cost Detail
- C** Toll Bridge Seismic Retrofit Program Summary Schedule
- D** Regional Measure 1 Program Cost Detail
- E** Regional Measure 1 Program Summary Schedule



## Appendix A: Toll Bridge Seismic Retrofit Program (\$Millions)

**San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project Cost Detail**

Contract	EA Number	AB 144 / SB 66 Budget	Approved Changes	Current Budget	Actual Cost To Date (12/2005)	Estimate at Completion	At-Completion Variance
a	b	c	d	e = c + d	f	g	h = g - e
<b>San Francisco-Oakland Bay Bridge East Span Replacement Project</b>							
<b>East Span - Skyway</b>	<b>01202X</b>						
Capital Outlay Support		197.0	-	197.0	119.9	197.0	-
Capital Outlay Construction		1,293.0	-	1,293.0	961.2	1,293.0	-
<b>Total</b>		1,490.0	-	1,490.0	1,081.1	1,490.0	-
<b>East Span - SAS Superstructure</b>	<b>0120FX</b>						
Capital Outlay Support		214.6	-	214.6	16.6	214.6	-
Capital Outlay Construction		1,753.7	-	1,753.7	-	1,767.4	13.7
<b>Total</b>		1,968.3	-	1,968.3	16.6	1,982.0	13.7
<b>East Span - SAS E2/T1 Foundations</b>	<b>0120EX</b>						
Capital Outlay Support		52.5	-	52.5	7.6	52.5	-
Capital Outlay Construction		313.5	-	313.5	88.3	313.5	-
<b>Total</b>		366.0	-	366.0	95.9	366.0	-
<b>SAS W2 Foundations</b>	<b>0120CX</b>						
Capital Outlay Support		10.0	-	10.0	9.2	10.0	-
Capital Outlay Construction		26.4	-	26.4	25.7	26.4	-
<b>Total</b>		36.4	-	36.4	34.9	36.4	-
<b>YBI Transition Structures</b>	<b>0120PX</b>						
Capital Outlay Support		78.7	-	78.7	7.8	78.7	-
Capital Outlay Construction		299.3	-	299.3	-	318.4	19.1
<b>Total</b>		378.0	-	378.0	7.8	397.1	19.1
<b>Oakland Touchdown</b>	<b>01204X</b>						
Capital Outlay Support		74.4	-	74.4	19.2	92.1	17.7
Capital Outlay Construction		283.8	-	283.8	-	272.7	(11.1)
<b>Total</b>		358.2	-	358.2	19.2	364.8	6.6
<b>YBI South/South Detour</b>	<b>0120RX</b>						
Capital Outlay Support		29.5	-	29.5	13.9	29.5	-
Capital Outlay Construction		131.9	-	131.9	30.0	133.8	1.9
<b>Total</b>		161.4	-	161.4	43.9	163.3	1.9
<b>Existing Bridge Demolition</b>	<b>01209X</b>						
Capital Outlay Support		79.7	-	79.7	0.2	79.7	-
Capital Outlay Construction		239.2	-	239.2	-	222.0	(17.2)
<b>Total</b>		318.9	-	318.9	0.2	301.7	(17.2)
<b>YBI/SAS Archeology</b>	<b>01207X</b>						
Capital Outlay Support		1.1	-	1.1	1.1	1.1	-
Capital Outlay Construction		1.1	-	1.1	1.1	1.1	-
<b>Total</b>		2.2	-	2.2	2.2	2.2	-

Note: Details may not sum to totals due to rounding

## Appendix A: Toll Bridge Seismic Retrofit Program (\$Millions)

**San Francisco-Oakland Bay Bridge (SFOBB) East Span Replacement Project Cost Detail (Cont.)**

Contract	EA Number	AB 144 / SB 66 Budget	Approved Changes	Current Budget	Actual Cost To Date (12/2005)	Estimate at Completion	At-Completion Variance
a	b	c	d	e = c + d	f	g	h = g - e
<b>YBI - USCG Road Relocation</b>	<b>0120QX</b>						
Capital Outlay Support		3.0	-	3.0	2.7	3.0	-
Capital Outlay Construction		3.0	-	3.0	2.8	3.0	-
<b>Total</b>		6.0	-	6.0	5.5	6.0	-
<b>YBI - Substation and Viaduct</b>	<b>0120GX</b>						
Capital Outlay Support		6.5	-	6.5	6.3	6.5	-
Capital Outlay Construction		11.6	-	11.6	11.2	11.6	-
<b>Total</b>		18.1	-	18.1	17.5	18.1	-
<b>Oakland Geofill</b>	<b>01205X</b>						
Capital Outlay Support		2.5	-	2.5	2.5	2.5	-
Capital Outlay Construction		8.2	-	8.2	8.2	8.2	-
<b>Total</b>		10.7	-	10.7	10.7	10.7	-
<b>Pile Installation Demonstration Project</b>	<b>01208X</b>						
Capital Outlay Support		1.8	-	1.8	1.8	1.8	-
Capital Outlay Construction		9.2	-	9.2	9.2	9.2	-
<b>Total</b>		11.0	-	11.0	11.0	11.0	-
<b>Stormwater Treatment Measures</b>	<b>0120JX</b>						
Capital Outlay Support		6.0	-	6.0	4.0	6.0	-
Capital Outlay Construction		15.0	-	15.0	-	15.0	-
<b>Total</b>		21.0	-	21.0	4.0	21.0	-
<b>Right-of-Way and Environmental Mitigation</b>	<b>0120X9</b>						
Capital Outlay Support		-	-	-	-	-	-
Capital Outlay & Right-of-Way		72.4	-	72.4	38.7	72.4	-
<b>Total</b>		72.4	-	72.4	38.7	72.4	-
<b>Sunk Cost - Existing East Span Retrofit</b>	<b>04343X &amp; 04300X</b>						
Capital Outlay Support		39.5	-	39.5	39.5	39.5	-
Capital Outlay Construction		30.8	-	30.8	30.8	30.8	-
<b>Total</b>		70.3	-	70.3	70.3	70.3	-
<b>Other Capital Outlay Support</b>							
Environmental Phase		97.7	-	97.7	97.7	97.7	-
Pre-Split Project Expenditures		44.9	-	44.9	44.9	44.9	-
Non-project Specific Costs		20.0	-	20.0	3.2	20.0	-
<b>Total</b>		162.6	-	162.6	145.8	162.6	-
<b>Subtotal East Span Capital Outlay Support</b>		959.4	-	959.4	398.1	977.1	17.7
<b>Subtotal East Span Capital Outlay Construction &amp; Sunk Costs</b>		4,492.1	-	4,492.1	1,207.2	4,498.5	6.0
<b>Other Budgeted Capital</b>		35.1	-	35.1	-	11.0	(24.1)
<b>Total SFOBB East Span Replacement Project</b>		<b>5,486.6</b>	<b>-</b>	<b>5,486.6</b>	<b>1,605.3</b>	<b>5,486.6</b>	<b>-</b>

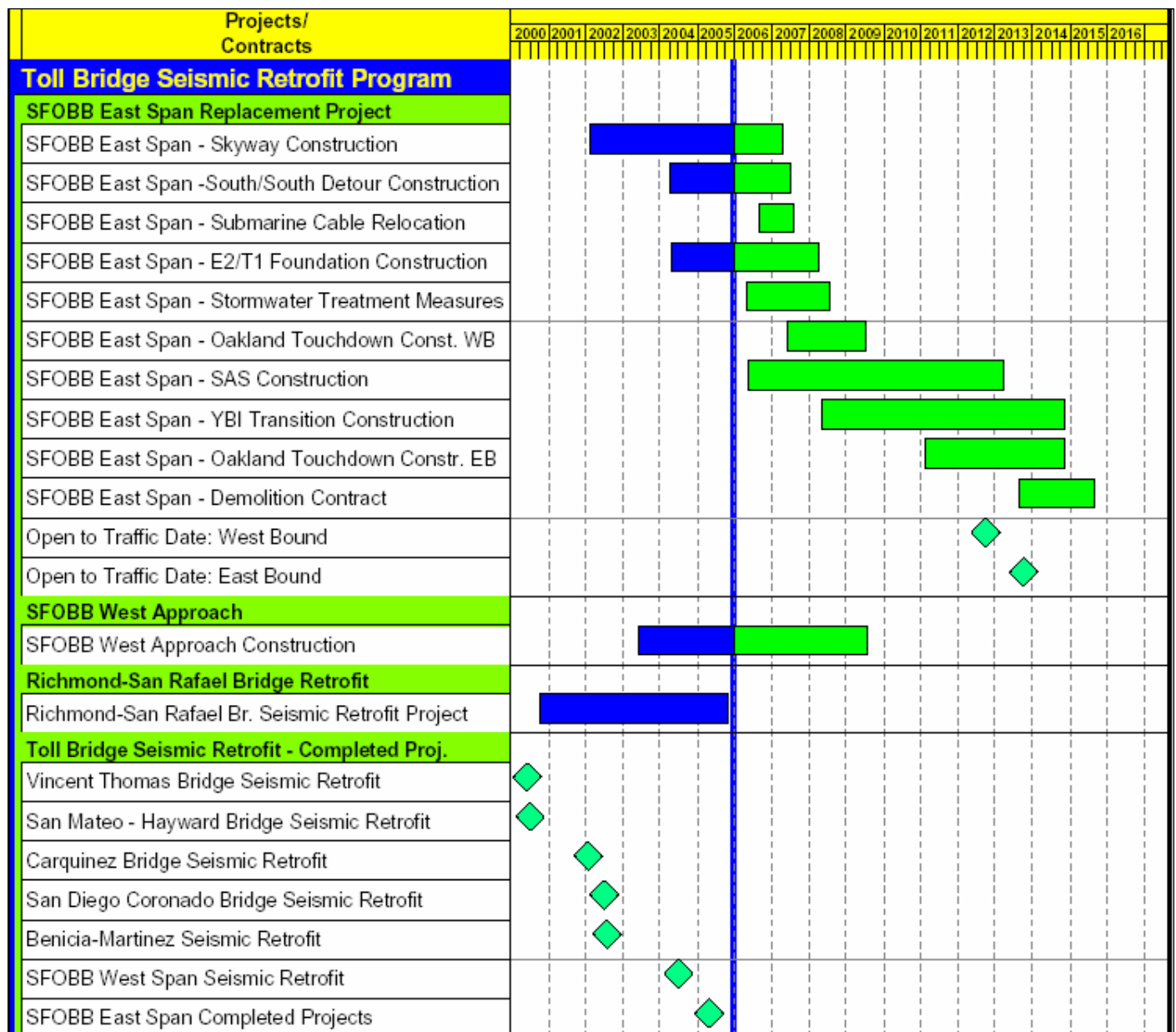
Note: Details may not sum to totals due to rounding

## Appendix B: Toll Bridge Seismic Retrofit Program Cost Detail (\$Millions)

Project	AB 144 / SB 66 Budget	Approved Changes	Current Budget	Actual Cost To Date (12/2005)	Estimate at Completion	At-Completion Variance
a	c	d	e = c + d	f	g	h = g - e
<b>SFOBB East Span Replacement Project</b>						
Capital Outlay Support	959.4	-	959.4	398.1	977.1	17.7
Capital Outlay Construction	4,492.1	-	4,492.1	1,207.2	4,498.5	6.4
Other Budgeted Capital	35.1	-	35.1	-	11.0	(24.0)
<b>Total</b>	<b>5,486.6</b>	<b>-</b>	<b>5,486.6</b>	<b>1,605.3</b>	<b>5,486.6</b>	<b>-</b>
<b>SFOBB West Approach Replacement</b>						
Capital Outlay Support	120.0	-	120.0	71.2	120.0	-
Capital Outlay Construction	309.0	-	309.0	178.4	309.0	-
<b>Total</b>	<b>429.0</b>	<b>-</b>	<b>429.0</b>	<b>249.6</b>	<b>429.0</b>	<b>-</b>
<b>SFOBB West Span Retrofit</b>						
Capital Outlay Support	75.0	-	75.0	74.8	75.0	-
Capital Outlay Construction	232.9	-	232.9	226.1	232.9	-
<b>Total</b>	<b>307.9</b>	<b>-</b>	<b>307.9</b>	<b>300.9</b>	<b>307.9</b>	<b>-</b>
<b>Richmond-San Rafael Bridge Retrofit</b>						
Capital Outlay Support	134.0	-	134.0	122.6	127.0	(7.0)
Capital Outlay Construction	780.0	-	780.0	666.4	698.0	(82.0)
<b>Total</b>	<b>914.0</b>	<b>-</b>	<b>914.0</b>	<b>789.0</b>	<b>825.0</b>	<b>(89.0)</b>
<b>Benicia-Martinez Bridge Retrofit</b>						
Capital Outlay Support	38.1	-	38.1	38.1	38.1	-
Capital Outlay Construction	139.7	-	139.7	139.7	139.7	-
<b>Total</b>	<b>177.8</b>	<b>-</b>	<b>177.8</b>	<b>177.8</b>	<b>177.8</b>	<b>-</b>
<b>Carquinez Bridge Retrofit</b>						
Capital Outlay Support	28.7	-	28.7	28.8	28.7	-
Capital Outlay Construction	85.5	-	85.5	85.4	85.5	-
<b>Total</b>	<b>114.2</b>	<b>-</b>	<b>114.2</b>	<b>114.2</b>	<b>114.2</b>	<b>-</b>
<b>San Mateo-Hayward Bridge Retrofit</b>						
Capital Outlay Support	28.1	-	28.1	28.1	28.1	-
Capital Outlay Construction	135.4	-	135.4	135.3	135.4	-
<b>Total</b>	<b>163.5</b>	<b>-</b>	<b>163.5</b>	<b>163.4</b>	<b>163.5</b>	<b>-</b>
<b>Vincent Thomas Bridge Retrofit (Los Angeles)</b>						
Capital Outlay Support	16.4	-	16.4	16.4	16.4	-
Capital Outlay Construction	42.1	-	42.1	42.0	42.1	-
<b>Total</b>	<b>58.5</b>	<b>-</b>	<b>58.5</b>	<b>58.4</b>	<b>58.5</b>	<b>-</b>
<b>San Diego-Coronado Bridge Retrofit</b>						
Capital Outlay Support	33.5	-	33.5	33.2	33.5	-
Capital Outlay Construction	70.0	-	70.0	69.4	70.0	-
<b>Total</b>	<b>103.5</b>	<b>-</b>	<b>103.5</b>	<b>102.6</b>	<b>103.5</b>	<b>-</b>
<b>Subtotal East Span Capital Outlay Support</b>	<b>1,433.2</b>	<b>-</b>	<b>1,433.2</b>	<b>811.3</b>	<b>1,443.9</b>	<b>10.7</b>
<b>Subtotal East Span Capital Outlay &amp; Sunk Costs</b>	<b>6,286.7</b>	<b>-</b>	<b>6,286.7</b>	<b>2,749.9</b>	<b>6,211.1</b>	<b>(75.6)</b>
<b>Subtotal Other Budgeted Capital</b>	<b>35.1</b>	<b>-</b>	<b>35.1</b>	<b>-</b>	<b>11.0</b>	<b>(24.0)</b>
<b>Miscellaneous Program Costs</b>	<b>30.0</b>	<b>-</b>	<b>30.0</b>	<b>25.1</b>	<b>30.0</b>	<b>-</b>
<b>Subtotal Toll Bridge Seismic Retrofit Program</b>	<b>7,785.0</b>	<b>-</b>	<b>7,785.0</b>	<b>3,586.3</b>	<b>7,696.0</b>	<b>(89.0)</b>
<b>Program Contingency</b>	<b>900.0</b>	<b>-</b>	<b>900.0</b>	<b>-</b>	<b>989.0</b>	<b>89.0</b>
<b>Total Toll Bridge Seismic Retrofit Program</b>	<b>8,685.0</b>	<b>-</b>	<b>8,685.0</b>	<b>3,586.3</b>	<b>8,685.0</b>	<b>-</b>

Note: Details may not sum to totals due to rounding

## Appendix C: Toll Bridge Seismic Retrofit Program Summary Schedule



## Appendix D: Regional Measure 1 Program Cost Detail (\$Millions)

Project	EA Number	June 2005 Budget	Approved Changes	Current Budget	Actual Cost To Date (12/2005)	Estimate at Completion	At-Completion Variance
a	b	c	d	e = c + d	f	g	h = g - e
<b>New Benicia-Martinez Bridge Project</b>							
<b>New Bridge</b>	<b>00603_</b>						
Capital Outlay Support		84.9	7.3	92.2	69.5	92.2	-
Capital Outlay Construction				-			-
BATA Funding		661.9	112.0	773.9	568.3	773.9	-
Non-BATA Funding		10.1	-	10.1	13.9	10.1	-
Subtotal		672.0	112.0	784.0	582.2	784.0	-
<b>Total</b>		756.9	119.3	876.2	651.7	876.2	-
<b>I-680/I-780 Interchange Reconstruction</b>	<b>00606_</b>						
Capital Outlay Support							
BATA Funding		24.9	2.0	26.9	25.6	26.9	-
Non-BATA Funding		1.4	5.1	6.5	5.4	6.5	-
Subtotal		26.3	7.1	33.4	31.0	33.4	-
Capital Outlay Construction							
BATA Funding		54.7	16.1	70.8	54.8	70.8	-
Non-BATA Funding		21.6	-	21.6	13.1	21.6	-
Subtotal		76.3	16.1	92.4	67.9	92.4	-
<b>Total</b>		102.6	23.2	125.8	98.9	125.8	-
<b>I-680/Marina Vista Interchange Reconstruction</b>	<b>00605_</b>						
Capital Outlay Support		18.3	1.2	19.5	19.1	19.5	-
Capital Outlay Construction		51.5	3.4	54.9	52.0	54.9	-
<b>Total</b>		69.8	4.6	74.4	71.1	74.4	-
<b>New Toll Plaza and Administration Building</b>	<b>00604_</b>						
Capital Outlay Support		11.9	2.4	14.3	13.6	14.3	-
Capital Outlay Construction		24.3	2.0	26.3	17.6	26.3	-
<b>Total</b>		36.2	4.4	40.6	31.2	40.6	-
<b>Existing Bridge &amp; Interchange Modifications</b>	<b>0060A_</b>						
Capital Outlay Support		4.3	5.7	10.0	2.6	10.0	-
Capital Outlay Construction		17.2	10.9	28.1	-	28.1	-
<b>Total</b>		21.5	16.6	38.1	2.6	38.1	-
<b>Other Contracts</b>	<b>See note below</b>						
Capital Outlay Support		11.4	(2.6)	8.8	6.2	8.8	-
Capital Outlay Construction		20.3	(1.3)	19.0	15.0	19.0	-
Capital Outlay Right-of-Way		20.4	(0.1)	20.3	12.0	20.3	-
<b>Total</b>		52.1	(4.0)	48.1	33.2	48.1	-
<b>Subtotal BATA Capital Outlay Support</b>		155.7	16.0	171.7	136.6	171.7	-
<b>Subtotal BATA Capital Outlay Construction</b>		829.9	143.1	973.0	707.7	973.0	-
<b>Subtotal Capital Outlay Right-of-Way</b>		20.4	(0.1)	20.3	12.0	20.3	-
<b>Subtotal Non-BATA Capital Outlay Support</b>		1.4	5.1	6.5	5.4	6.5	-
<b>Subtotal Non-BATA Capital Outlay Construction</b>		31.7	-	31.7	27.0	31.7	-
<b>Project Reserves</b>		20.8	39.0	59.8	-	59.8	-
<b>Total New Benicia-Martinez Bridge Project</b>		<b>1,059.9</b>	<b>203.1</b>	<b>1,263.0</b>	<b>888.7</b>	<b>1,263.0</b>	<b>-</b>

## Notes:

Includes EA's 00601\_, 00608\_, 00609\_, 0060C\_, 0060E\_, 0060F\_, 0060G\_, and 0060H\_ and all Project Right-of-Way

Note: Details may not sum to totals due to rounding



## Appendix D: Regional Measure 1 Program Cost Detail (\$Millions) (Cont.)

Project	EA Number	June 2005 Budget	Approved Changes	Current Budget	Actual Cost To Date (12/2005)	Estimate at Completion	At-Completion Variance
a	b	c	d	e = c + d	f	g	h = g - e
<b>Carquinez Bridge Replacement Project</b>							
<b>New Bridge</b>	<b>01301_</b>						
Capital Outlay Support		60.5	-	60.5	59.9	62.3	1.8
Capital Outlay Construction		253.3	-	253.3	253.0	256.3	3.0
<b>Total</b>		313.8	-	313.8	312.9	318.6	4.8
<b>Crockett Interchange Reconstruction</b>	<b>01305_</b>						
Capital Outlay Support		32.0	-	32.0	31.9	32.0	-
Capital Outlay Construction		73.9	-	73.9	71.8	73.9	-
<b>Total</b>		105.9	-	105.9	103.7	105.9	-
<b>Existing 1927 Bridge Demolition</b>	<b>01309_</b>						
Capital Outlay Support		16.1	-	16.1	8.1	16.1	-
Capital Outlay Construction		35.2	-	35.2	16.8	35.2	-
<b>Total</b>		51.3	-	51.3	24.9	51.3	-
<b>Other Contracts</b>	<b>See note below</b>						
Capital Outlay Support		15.8	-	15.8	14.4	15.0	(0.8)
Capital Outlay Construction		18.8	-	18.8	15.3	17.9	(0.9)
Capital Outlay Right-of-Way		10.5	-	10.5	9.9	10.5	-
<b>Total</b>		45.1	-	45.1	39.6	43.4	(1.7)
<b>Subtotal BATA Capital Outlay Support</b>		124.4	-	124.4	114.3	125.4	1.0
<b>Subtotal BATA Capital Outlay Construction</b>		381.2	-	381.2	356.9	383.3	2.1
<b>Subtotal Capital Outlay Right-of-Way</b>		10.5	-	10.5	9.9	10.5	-
<b>Project Reserves</b>		12.1	-	12.1	-	9.0	(3.1)
<b>Total Carquinez Bridge Replacement Project</b>		<b>528.2</b>	<b>-</b>	<b>528.2</b>	<b>481.1</b>	<b>528.2</b>	<b>-</b>

## Notes:

Other Contracts includes EA's 01302\_, 01303\_, 01304\_, 01306\_, 01307\_, 01308\_, 0130A\_, 0130C\_, 0130D\_, 0130F\_, 0130G\_, 0130H\_, 0130J\_, 00453\_, 00493\_, 04700\_, 00607\_, 2A270\_, and 29920\_ and all Project Right-of-Way

Note: Details may not sum to totals due to rounding

## Appendix D: Regional Measure 1 Program Cost Detail (\$Millions) (Cont.)

Project	EA Number	June 2005 Budget	Approved Changes	Current Budget	Actual Cost To Date (12/2005)	Estimate at Completion	At-Completion Variance
a	b	c	d	e = c + d	f	g	h = g - e
<b>Richmond-San Rafael Bridge Trestle, Fender, and Deck Joint Rehabilitation</b>	<b>See note <sup>1</sup> below</b>						
Capital Outlay Support							
BATA Funding		2.2	-	2.2	1.4	2.2	-
Non-BATA Funding		8.6	-	8.6	10.4	10.4	1.8
Subtotal		10.8	-	10.8	11.8	12.6	1.8
Capital Outlay Construction							
BATA Funding		40.2	-	40.2	33.4	33.4	(6.8)
Non-BATA Funding		51.1	-	51.1	49.7	51.1	-
Subtotal		91.3	-	91.3	83.1	84.5	(6.8)
Project Reserves		-	-	-	-	-	-
<b>Total</b>		102.1	-	102.1	94.9	97.1	(5.0)
<b>Richmond-San Rafael Bridge Deck Overlay Rehabilitation</b>	<b>0415U_</b>						
Capital Outlay Support							
BATA Funding		4.0	0.5	4.5	1.6	4.5	-
Non-BATA Funding		4.0	(4.0)	-	-	-	-
Subtotal		8.0	(3.5)	4.5	1.6	4.5	-
Capital Outlay Construction		16.9	3.6	20.5	-	20.5	-
Project Reserves		0.1	(0.1)	-	-	-	-
<b>Total</b>		25.0	-	25.0	1.6	25.0	-
<b>Richmond Parkway Project (RM 1 Share Only)</b>	<b>Non-Caltrans</b>						
Capital Outlay Support		-	-	-	-	-	-
Capital Outlay Construction		5.9	-	5.9	3.9	5.9	-
<b>Total</b>		5.9	-	5.9	3.9	5.9	-
<b>San Mateo-Hayward Bridge Widening</b>	<b>See note <sup>2</sup> below</b>						
Capital Outlay Support		34.6	-	34.6	34.0	34.6	-
Capital Outlay Construction		180.2	-	180.2	174.0	176.2	(4.0)
Capital Outlay Right-of-Way		1.5	-	1.5	0.5	0.6	(0.9)
Project Reserves		1.5	-	1.5	-	0.5	(1.0)
<b>Total</b>		217.8	-	217.8	208.5	211.9	(5.9)
<b>I-880/SR-92 Interchange Reconstruction</b>	<b>EA's 23317_, 01601_, and 01602_</b>						
Capital Outlay Support		28.8	-	28.8	26.3	43.2	14.4
Capital Outlay Construction							
BATA Funding		85.2	-	85.2	-	109.4	24.2
Non-BATA Funding		9.6	-	9.6	-	9.6	-
Subtotal		94.8	-	94.8	-	119.0	24.2
Capital Outlay Right-of-Way		9.9	-	9.9	7.3	13.0	3.1
Project Reserves		0.3	-	0.3	-	11.1	10.8
<b>Total</b>		133.8	-	133.8	33.6	186.3	52.5
<b>Bayfront Expressway Widening</b>	<b>EA's 00487_, 01511_, and 01512_</b>						
Capital Outlay Support		8.6	-	8.6	8.0	8.2	(0.4)
Capital Outlay Construction		26.5	-	26.5	24.8	26.5	-
Project Reserves		0.2	-	0.2	0.2	0.2	-
<b>Total</b>		35.3	-	35.3	33.0	34.9	(0.4)
<b>US 101/University Avenue Interchange Modification</b>	<b>Non-Caltrans</b>						
Capital Outlay Support		-	-	-	-	-	-
Capital Outlay Construction		3.8	-	3.8	3.7	3.8	-
<b>Total</b>		3.8	-	3.8	3.7	3.8	-
<b>Subtotal BATA Capital Outlay Support</b>		358.3	16.5	374.8	322.2	389.8	15.0
<b>Subtotal BATA Capital Outlay Construction</b>		1,569.8	146.7	1,716.5	1,304.4	1,732.0	15.5
<b>Subtotal Capital Outlay Right-of-Way</b>		42.3	(0.1)	42.2	29.7	44.4	2.2
<b>Subtotal Non-BATA Capital Outlay Support</b>		14.0	1.1	15.1	15.8	16.9	1.8
<b>Subtotal Non-BATA Capital Outlay Construction</b>		92.4	-	92.4	76.7	92.4	-
<b>Project Reserves</b>		35.0	38.9	73.9	0.2	80.6	6.7
<b>Total RM1 Program</b>		2,111.8	203.1	2,314.9	1,749.0	2,356.1	41.2

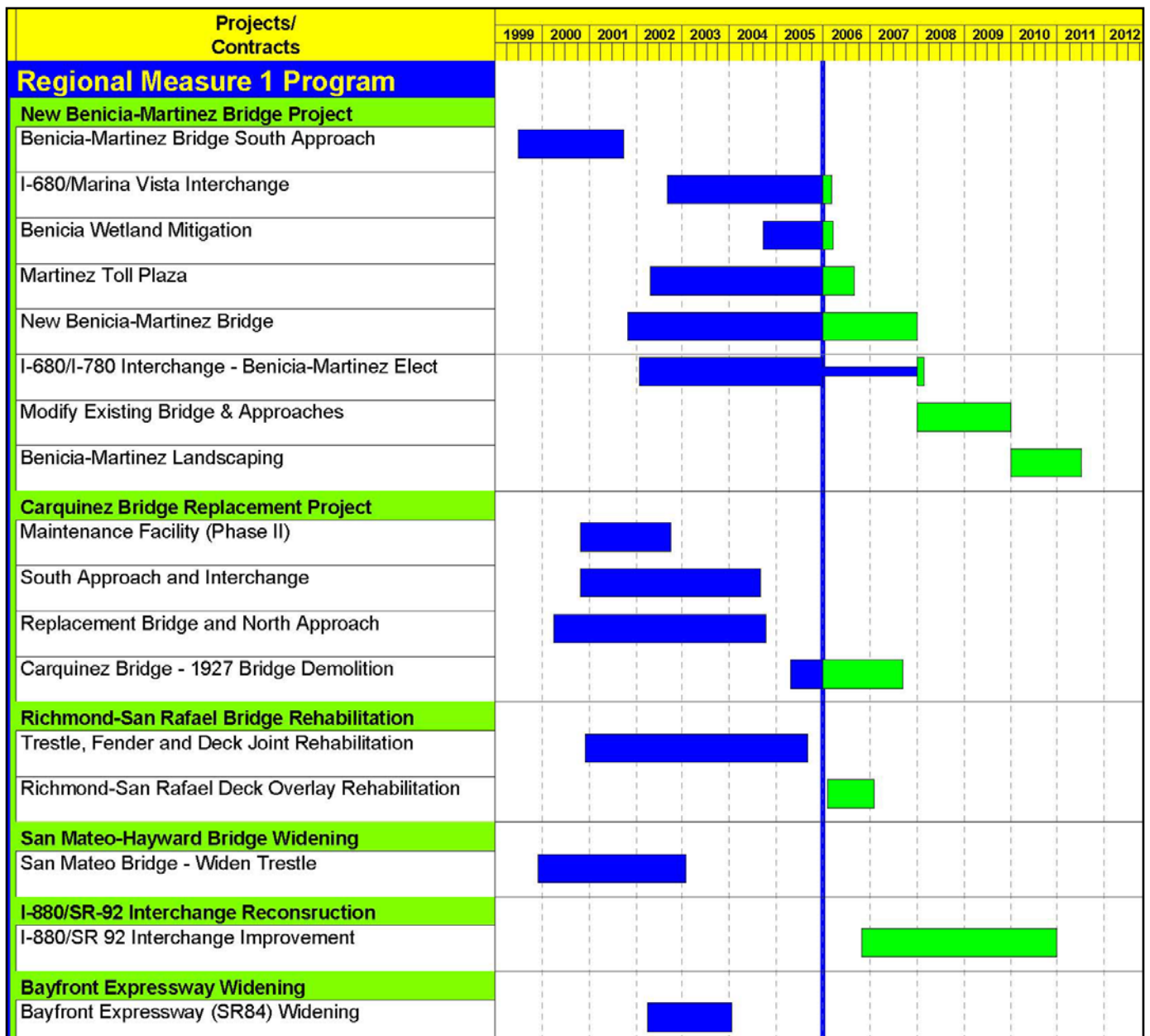
## Notes:

<sup>1</sup> Richmond-San Rafael Bridge Trestle, Fender, and Deck Joint Rehabilitation Includes Non-TBSRA Expenses for EA 0438U\_ and 04157\_

<sup>2</sup> San Mateo-Hayward Bridge Widening Includes EA's 00305\_, 04501\_, 04502\_, 04503\_, 04504\_, 04505\_, 04506\_, 04507\_, 04508\_, 04509\_, 27740\_, 27790\_, 04860\_

Note: Details may not sum to totals due to rounding

## Appendix E: Regional Measure 1 Program Summary Schedule



## Appendix F: Glossary of Terms

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**AB144/SB 66 BUDGET:** the planned allocation of resources for the Toll Bridge Seismic Retrofit Program, or subordinate projects or contracts, as provided in Assembly Bill 144 and Senate Bill 66, signed into law by Governor Schwarzenegger on July 18, 2005 and September 29, 2005, respectively.

**APPROVED CHANGES:** changes to the AB144/SB 66 Budget or June 2005 BATA Budget as approved by the Bay Area Toll Authority Commission.

**AT COMPLETION VARIANCE or VARIANCE (cost):** the mathematical difference between the Estimate at Completion and the Current Budget.

**COST TO DATE:** the actual expenditures incurred by the program, project, or contract as of the month and year shown.

**CURRENT BUDGET:** the sum of the AB144/SB66 Budget or June 2005 BATA Budget and Approved Changes.

**ESTIMATE AT COMPLETION:** the current forecast of all of the costs that are projected to be expended so as to complete the given scope of the program, project, or contract.

**JUNE 2005 BATA BUDGET:** the planned allocation of resources for the Regional Measure 1 Program, or subordinate projects or contracts as authorized by the Bay Area Toll Authority as of June 2005.

**PROJECT COMPLETE AB144/SB 66 BASELINE or BASELINE PROJECT (or CONTRACT) COMPLETION DATE:** the planned completion date for the Toll Bridge Seismic Retrofit Program or subordinate projects or contracts.

**PROJECT COMPLETE BASELINE:** the planned completion date for the Regional Measure 1 Program or subordinate projects or contracts.

**PROJECT COMPLETE FORECAST or FORECAST PROJECT (or CONTRACT) COMPLETION DATE:** the current projected date for the completion of the program, project, or contract.

**SCHEDULE VARIANCE or VARIANCE (schedule):** the mathematical difference expressed in months between the Forecast Completion Date and the Baseline Completion Date.

The following information is provided in accordance with California Government code Section 7550:

This document is one of a series of reports prepared for the Bay Area Toll Authority (BATA)/Metropolitan Transportation Commission (MTC) for the Toll Bridge Seismic Retrofit and Regional Measure 1 Programs. The contract value for the monitoring efforts, technical analysis, and field site works that contribute to these reports, as well as the report preparation and production, is \$1,574,873.



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